

ARKANSAS

INDUSTRIAL

UNIVERSITY.

1888-89.

SEVENTEENTH CATALOGUE

OF THE

ARKANSAS

Industrial University

FAYETTEVILLE, WASHINGTON CO., ARK.,

FOR THE

88-89

YEAR ENDING SEPTEMBER 2, 1889.

AND

ANNOUNCEMENT FOR 1889-90.

1889:
WOODRUFF PRINTING CO.,
LITTLE ROCK, ARK.



UNIVERSITY BUILDINGS.

The main University building is a magnificent structure of brick, three stories in height, with a stone basement and mansard roof. It occupies three sides of a quadrangle, and has a frontage of 214 feet.

In the north wing are situated the Chapel on the first floor, the Library on the second, and the Engineering Drawing Room on the third; in the south wing, the Preparatory Hall on the first floor, the College Hall and Drafting Room on the second, and the Museum on the third.

The main front of the building is divided into offices, recitation rooms, and laboratories. The offices of the President and the Commandant, and the rooms of the Preparatory and Musical departments are on the first floor, the Departments of Mathematics, Engineering and Physics, Ancient and Modern Language, and Pedagogics, have convenient rooms on the second floor, while the Departments of Agriculture and Chemistry and Biology and Geology, are accommodated on the third floor. Above, on the fourth floor, are the commodious and well-furnished halls of the Literary societies.

This building covers an area of 26,108 square feet, and contains *seventy* rooms, together with broad corridors and ample stairways. As a safeguard against fire, and to insure uniform temperature, the entire building is heated throughout by steam.

The new Dormitory, in accordance with legislative enactment, was erected by the Board of Trustees in 1887, and opened to the use of students in the Spring of 1888.

It is a substantial brick building three stories high, containing over forty rooms. In finish and appearance, both externally and internally, it is a model structure. The rooms are large, airy, well ventilated and lighted, and open into broad corridors extending lengthwise through the building. The entrances are five in number, three in front, which open upon a broad veranda, and two in the rear. As to location and drainage, every precaution has been taken to insure good health to its occupants. That proper care may be exercised a member of the teaching body resides here with his family, and the University Faculty make a regular tour of inspection. In this building the *electric light* has been substituted for kerosene lamps, and a source of danger is thus eliminated.

The building of the Agricultural Experiment Station is of brick, one story in height. It contains the office of the Director, the apartments of the Chemist, Horticulturist, Veterinarian and Entomologist, together with a commodious Chemical Laboratory, Weighing-Room and Store-Rooms.

The new Shop Building was erected in the Spring of 1889. It is of wood and iron, 170 feet long, 40 feet wide, and one story in height, with ample light and ventilation. The Wood-Room is 40x60 feet in size, the Metal-Room 40x40 feet, the Forge-Room 40x25 feet, and the Foundry 40x45 feet.

Connected with the Department of Agriculture is a large Barn, Stock-Shed, Dairy-House, Fruit-House, and other necessary outbuildings.

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Adjunct Professor of Ancient Languages.

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Adjunct Professor of Chemistry and Agriculture.

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Assistant in Preparatory Department.

ANNA MARTHA WAGGONER,
Assistant in Preparatory Department.

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Assistant in Preparatory Department.

NAOMI JOSEPHINE WILLIAMS, A. M.,
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*JULIUS WALTER MAYO (Graduate Miller Manual Labor School, Virginia),
Instructor in Iron Work.

*LEWIS CRAPO GARDNER (Graduate Chicago Manual Training School),
Instructor in Foundry and Forging.

*Resigned.

WILLIAM FERDINAND BATES,
Foreman of the Farm.

GEORGE PICKETT EUSTACE (Graduate Miller Manual Labor School, Virginia.)
Instructor in Iron Work.

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Instructor in Field Engineering.

*PHILIP HUDSON BABB,
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Instructor in Wood Work.

PROFESSOR EDWARDS,
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IDA PACE, A. B.,
Secretary to the President.

PROFESSOR DROKE,
Superintendent of Dormitory.

Mrs. F. W. WASHINGTON,
Matron.

WILLARD FRENCH, Engineer.

WALTER WATSON McCART, Janitor.

*Deceased.

MEDICAL DEPARTMENT.

SESSION OF 1889-90.

LOCATED AT LITTLE ROCK, ARK.

PROFESSORS :

P. O. HOOPER, M. D.,
Emeritus, Practice of Medicine.

EDWIN BENTLEY, M. D.,
Institutes and Practice of Surgery.

JAS. A. DIBRELL, JR., M. D.,
General, Descriptive and Surgical Anatomy, and President of Faculty.

A. L. BREYSACHER, M. D.,
Obstetrics and Diseases of Women and Children.

JOHN J. McALMONT, M. D.,
Materia Medica, Therapeutics, Hygiene and Botany.

JAMES H. SOUTHALL, M. D.,
Practice of Medicine.

ROSCOE G. JENNINGS, M. D.,
Clinical Surgery and Dermatology.

W. G. MILLER, M. D.,
Medical Chemistry and Toxicology.

L. P. GIBSON, M. D.,
Demonstrator of Anatomy.

T. E. MURRELL, M. D.,
Ophthalmology and Otology.

JAMES H. LENOW, M. D.,
Diseases of Genito-Urinary Organs.

CLAIBORNE WATKINS, M. D.,
Physical Diagnosis and Clinical Medicine.

LOUIS R. STARK, M. D.,
Gynecology.

JOHN WATERS, M. D.,
Institutes of Medicine.

F. L. FRENCH, M. D.,
Prosecutor of Anatomy.

W. U. SIMONS, U. S. SIGNAL SERVICE,
Meteorology, Etc.

J. N. Craig, Janitor at the College, on Second, between Main and Louisiana Streets.

All communications should be addressed to

R. G. JENNINGS, M. D.,
Secretary of Faculty, Little Rock, Ark.

THE ARKANSAS INDUSTRIAL UNIVERSITY.

Agricultural Experiment Station.

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Agricultural Committee of Board of Trustees,
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The Board of Control. The President of the University. The Director of the Station.

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†S. S. TWOMBLEY.....	Chemist and Vice-Director.
F. W. SIMONDS.....	Biologist.
C. W. WOODWORTH.....	Entomologist.
E. H. RICHMAN.....	Horticulturist.
R. R. DINWIDDIE.....	Veterinarian.
C. B. COLLINGWOOD.....	Chemist.
†G. A. HUMPHREY.....	Assistant Chemist.
J. A. HEBERLY.....	Assistant Chemist.
F. CORY.....	Assistant at Pine Bluff.
R. L. MUNN.....	Assistant at Jonesboro.
*J. K. FITZGERALD.....	Assistant at Newport.
R. L. BENNETT.....	Assistant at Newport.

*Deceased.

†Resigned.

Address all communications to

DIRECTOR AGRICULTURAL EXPERIMENT STATION,
ARKANSAS INDUSTRIAL UNIVERSITY,
FAYETTEVILLE, ARKANSAS.

CATALOGUE OF STUDENTS.

SESSION 1888-89.

ABBREVIATIONS.

Ph. D.	.....	Doctor of Philosophy.
B. A.	.....	Bachelor of Art.
C. E.	.....	Civil Engineering.
M. E.	.....	Mechanical Engineering.
B. S.	.....	Bachelor of Science.
B. S. A.	.....	Bachelor of Scientific Agriculture.
L. I.	.....	Licentiate of Instruction.
Ir.	.....	Irregular.

COLLEGIATE DEPARTMENT.

POST GRADUATES.

NAME.	RESIDENCE.	COURSE.
Droke, George W.	Fayetteville, Washington county	Ph. D.
Face, Ida	Harrison, Boone county	Ph. D.
Total		2

SENIORS—CLASS OF 1889.

NAME.	RESIDENCE.	COURSE.
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Fishback, Louie F.	Ft. Smith, Sebastian county	B. S.
Harrison, Grace	Washington, D. C.	B. S.
McNeely, Jno. C.	Rackensack, Pulaski county	C. E.
Obenshain, Ora	Eureka Springs, Carroll county	B. S.
Slagle, Ida	Hico, Benton county	B. A.
Taff, Mollie	Fayetteville, Washington county	B. A.
Total		7

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Gannaway, John R.	Warren, Bradley county	B. A.
Harris, Robert D.	Melbourne, Izard county	C. E.

NAME.	RESIDENCE.	COURSE.
Hervey, W. Rhodes.....	Santa Ana, Cal.	B. S.
Humphreys, Gus A.....	Ft. Smith, Sebastian county.....	B. A.
Morrow, Mattie.....	Fayetteville, Washington county.....	B. S.
Shreve, A. Walter.....	Fayetteville, Washington county.....	C. E.
Shreve, H. Ben.....	Fayetteville, Washington county.....	C. E.
Taff, Albert G.....	Fayetteville, Washington county.....	C. E.
Total		9

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Core, Elias.....	Boonerville, Logan county.....	L. I.
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Greene, Fred.....	Fayetteville, Washington county.....	C. E.
Horton, Stephen A.....	Fairview, Dallas county.....	B. A.
Humphreys, John	Ft. Smith, Sebastian county.....	C. E.
Kemp, Elsie.....	Fayetteville, Washington county.....	B. S.
Leverett, Storer.....	Fayetteville, Washington county.....	C. E.
Leverett, Ammie	Fayetteville, Washington county.....	Ir.
Martin, Mack.....	Hackett City, Sebastian county.....	M. E.
Newman, Andrew J.....	Lonoke, Lonoke county	B. A.
Oliver, Wallace.....	Lee's Creek, Crawford county	B. A.
Patton, Clyde C.....	Fayetteville, Washington county.....	B. A.
Patton, William J.....	Fayetteville, Washington county.....	C. E.
Reed, William L.....	Fayetteville, Washington county.....	Ir.
Reynolds, Mattie.....	Fayetteville, Washington county.....	L. I.
Sellers, Jordan.....	Perryville, Perry county	B. S.
Skelton, Gordon V.....	Fayetteville, Washington county.....	C. E.
Whitford, William E.....	Silver Hill, Sevier county.....	L. I.
Van Winkle, Peter.....	Fayetteville, Washington county.....	Ir.
Total.....		20

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Busey, J. F.....	Fayetteville, Washington county.....	M. E.
Crawford, William A.....	Boonesboro, Washington county.....	B. A.
Curry, Jennie.....	Fayetteville, Washington county.....	B. S.

NAME.	RESIDENCE.	COURSE.
Carry, May.....	Fayetteville, Washington county.....	B. S.
X Carry, Lula.....	Fayetteville, Washington county.....	B. S.
X Davies, Hadgie.....	Fayetteville, Washington county.....	B. A.
Davies, Elza D.....	Fayetteville, Washington county.....	C. E.
Duke, Annie.....	Fayetteville, Washington county.....	B. S.
Duncan, L. D.....	Waldron, Scott county.....	B. A.
Duncan, Thos. G.....	Fayetteville, Washington county.....	B. S.
Ellis, Mark.....	Springdale, Washington county.....	B. A.
Everett, John W.....	Norwoodville, Sevier county.....	B. S. A.
Futrell, John C.....	Marianna, Lee county.....	B. A.
Galloway, Irene.....	Fayetteville, Washington county.....	L. I.
Gregg, H. Lincoln.....	Fayetteville, Washington county.....	B. A.
+ Hamilton, Wm. J.....	Hartford, Sebastian county.....	L. I.
Harrod, James C.....	Vilonia, Faulkner county.....	B. A.
Hoag, Elvero C.....	Fayetteville, Washington county.....	B. A.
X Holcomb, Cener.....	Fayetteville, Washington county.....	B. A.
Horton, Wm. S.....	Fairview, Dallas county.....	B. A.
Hughes, G. A.....	Osage Mills, Benton county.....	C. E.
X Irwin, Richard B.....	Fayetteville, Washington county.....	C. E.
Jackson, Edna.....	Fayetteville, Washington county.....	B. S.
Jones, Bertie.....	Fayetteville, Washington county.....	B. S.
Jones, Arthur P.....	Atoka, Indian Territory.....	B. S.
Kell, Thomas B.....	Fayetteville, Washington county.....	B. A.
McKibben, Frank.....	Van Buren, Crawford county.....	C. E.
McNeely, Thomas B.....	Rackensack, Pulaski county.....	M. E.
Moore, David.....	Fayetteville, Washington county.....	B. A.
Morrow, Sam Y.....	Fayetteville, Washington county.....	B. S. A.
Neal, James P.....	Prairie Grove, Washington county.....	B. A.
Norman, George.....	Hamburg, Ashley county.....	B. A.
Norris, Newton.....	Lavaca, Sebastian county.....	M. E.
Parks, Ida.....	Prairie Grove, Washington county.....	B. S.
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Pollard, Mary.....	Fayetteville, Washington county.....	Ir.
Pugh, George.....	Hamburg, Ashley county.....	B. A.
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Rutledge, James A.....	Fayetteville, Washington county.....	B. A.
Smith, Wm. L.....	Fayetteville, Washington county.....	C. E.
Smith, Stephen K.....	Fayetteville, Washington county.....	C. E.
+ Vanix, Julia.....	Fayetteville, Washington county.....	B. A.
+ Vanix, Sam.....	Fayetteville, Washington county.....	B. A.
Wade, Mert C.....	Fayetteville, Washington county.....	L. I.
+ Wood, Albert C.....	Fayetteville, Washington county.....	C. E.
X Wood, Ben F.....	Fayetteville, Washington county.....	C. E.
Total.....		49

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Benbrook, J. C.....	Fayetteville, Washington county.....	B. S. A.
Bibb, Blanche.....	Franklin, Kentucky.....	B. A.
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Boinger, Florence.....	Fayetteville, Washington county.....	B. S.
Bray, Thos. W.....	Fayetteville, Washington county.....	C. E.
Brewer, Oliver P.....	Welber's Fall, Indian Territory.....	B. S.
Bristow, Sam. A.....	Fayetteville, Washington county.....	B. A.
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Chapman, H. F.....	Godfrey, Kansas.....	Ir.
Chasteen, Charles A.....	Fayetteville, Washington county.....	B. S. A.
Conner, W. Clint.....	Fayetteville, Washington county.....	O. E.
Cotner, W. H.....	Plantersville, Drew county.....	B. S.
Crawford, Oscar G.....	Springdale, Washington county.....	B. S. A.
Crawford, Della.....	Fayetteville, Washington county.....	B. S.
Davies, Clyde.....	Fayetteville, Washington county.....	C. I.
Dickinson, C. F.....	Little Rock, Pulaski county.....	B. A.
Dowell, Rob't W.....	Fayetteville, Washington county.....	B. S. A.
Ellis, Lola.....	Fayetteville, Washington county.....	L. I.
Ellis, Lola.....	Fayetteville, Washington county.....	L. I.
Evins, Alex.....	Boonesboro, Washington county.....	C. E.
Evins, Addie.....	Boonesboro, Washington county.....	L. I.
Ferguson, Arthur.....	Fayetteville, Washington county.....	B. S.
Finley, Della.....	Fayetteville, Washington county.....	B. S.
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Funston, Wm. P.....	Little Rock, Pulaski county.....	C. I.
Galloway, Paul M.....	Fayetteville, Washington county.....	B. S. A.
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Gregg, Ida.....	Fayetteville, Washington county.....	B. A.

NAME.	RESIDENCE.	COURSE.
Griffith, Blanche.....	Fayetteville, Washington county.....	B. A.
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Hale, Irwin.....	Fayetteville, Washington county.....	B. S. A.
Hall, Ed. J.....	Fayetteville, Washington county.....	L. I.
Harris, Rena.....	Fayetteville, Washington county.....	B. S.
Harris, Rob't C.....	Fayetteville, Washington county.....	B. S. A.
Harvey, Zoni.....	Marshall, Searcy county.....	L. I.
Hays, George W.....	Fayetteville, Washington county.....	M. E.
Holecomb, R. Bruce.....	Fayetteville, Washington county.....	C. E.
Holway, Lute.....	Fayetteville, Washington county.....	L. I.
Hopper, G. W.....	Morrison Bluff, Logan county.....	B. S. A.
Howell, Willie.....	Fayetteville, Washington county.....	B. S. A.
Howerton, Clifford T.....	Fayetteville, Washington county.....	C. E.
Hudgins, Minnie.....	St. Francis, Clay county.....	B. S.
Hunt, Jimmie.....	Fayetteville, Washington county.....	B. S.
Hunt, Gertie.....	Fayetteville, Washington county.....	L. I.
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.....	B. S.
.....	B. S.
Mayes, Wm. A.....	Farmington, Washington county.....	B. S.
McBride, Emma.....	Marshall, Searcy county.....	B. S.
McBride, Toccoa....., Searcy county.....	L. I.
McCarty, Myrta.....	Fayetteville, Washington county.....	B. S.
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McIlroy, Annie.....	Fayetteville, Washington county.....	B. S.
McIlroy, Charles.....	Fayetteville, Washington county.....	L. I.
McKibben, Wm. W.....	Van Buren, Crawford county.....	L.
Medearis, James F.....	Walnut Ridge, Lawrence county.....	B. A.
Medearis, Robert S.....	Cincinnati, Washington county.....	B. A.
Moore, John F.....	Cincinnati, Washington county.....	B. A.
Moore, J. Harvey.....	Cincinnati, Washington county.....	B. S. A.
Mooring, Blanche.....	Fayetteville, Washington county.....	B. S.
Morley, Mary.....	Central City, Sebastian county.....	B. S.
Morrow, Fred R.....	Fayetteville, Washington county.....	B. S. A.

NAME.	RESIDENCE.	COURSE.
Mullins, Wm. E.....	Fayetteville, Washington county.....	C. E.
Mullins, Charles T.....	Fayetteville, Washington county.....	B. S. A.
Norris, Annie.....	Lavaca, Sebastian county.....	B. S.
Oliver, Florence.....	Lee's Creek, Crawford county.....	B. A.
Patton, W. Scott.....	Fayetteville, Washington county.....	B. S.
Patrick, Oscar.....	Ft. Smith, Sebastian county.....	B. A.
Payne, Joseph.....	Hot Springs, Garland county.....	C. E.
Pemberton, Callie.....	Fayetteville, Washington county.....	B. A.
Pemberton, Richard K.....	Fayetteville, Washington county.....	B. S.
Poole, W. F.....	Webb City, Franklin county.....	B. S.
Rawlings, John O.....	Waldron, Scott county.....	B. A.
Reed, Maud.....	Fayetteville, Washington county.....	B. S.
Rosser, Alta.....	Evansville, Washington county.....	L. I.
Russell, James A.....	Bryant, Saline county.....	B. S. A.
Sexton, Robert.....	Fayetteville, Washington county.....	M. E.
Simmons, L. L.....	Magnolia, Columbia county.....	B. S. A.
Smith, Albert E.....	Fayetteville, Washington county.....	M. E.
Speer, G. Hopkins.....	Cedar Glades, Montgomery county.....	B. A.
Sternberg, Henry.....	Ft. Smith, Sebastian county.....	O. E.
Stewart, Carrie.....	Fayetteville, Washington county.....	B. A.
Stewart, Grace.....	Fayetteville, Washington county.....	B. A.
Stirman, Gertie.....	Ouray, Colorado.....	Ir.
Sutcliffe, William.....	Des Arc, Prairie county.....	B. S. A.
Thomas, Alice.....	Fayetteville, Washington county.....	B. S.
Treadwell, S. Clem.....	Toledo, Cleveland county.....	L. I.
Vance, W. J.....	Russellville, Pope county.....	B. S. A.
Vandeverter, Willie.....	Fayetteville, Washington county.....	B. S.
Vandeverter, James.....	Fayetteville, Washington county.....	B. S.
Vaughan, Rufus A.....	Fayetteville, Washington county.....	M. E.
Wade, Lena.....	Fayetteville, Washington county.....	L. I.
Wainwright, Lula.....	Fayetteville, Washington county.....	B. S.
Ware, John.....	Helena, Phillips county.....	C. E.
Watson, J. E.....	Charleston, Franklin county.....	L. I.
Wellshear, Charles C.....	Cassville, Missouri.....	C. E.
White, Lula.....	Fayetteville, Washington county.....	B. S.
Williams, Mattie.....	Fayetteville, Washington county.....	L. I.
Williams, J. F.....	Clarksville, Johnson county.....	L. I.
Wilson, James E.....	Springdale, Washington county.....	B. S. A.
Woodruff, Joseph E.....	Lavaca, Sebastian county.....	L. I.
Woodward, Ben B.....	Sub Rosa, Franklin county.....	B. S. A.
Wooster, Mary.....	Frisco, Crawford county.....	L. I.
Total.....		118

A CLASS.

NAME.	RESIDENCE.	COURSE
Allen, William A.....	Farmington, Washington county.....	B. S. A.
Anderson, O. A.....	Conway, Faulkner county.....	B. S. A.
Arnold, William B.....	Arkadelphia, Clark county.....	C. E.
Baxter, Bertha.....	Riverdale, Wyoming.....	L. I.
Bayne, A. S.....	Clarendon, Monroe county.....	B. A.
Bears, Leslie.....	Fayetteville, Washington county.....	B. S. A.
Benton, John L.....	Fayetteville, Washington county.....	B. S. A.
Bishop, Sam. A.....	Marianna, Lee county.....	B. A.
Bishop, Lillie.....	Fayetteville, Washington county.....	B. S.
Blackmer, Stella.....	Fayetteville, Washington county.....	B. S.
Blagg, William N.....	Bluffton, Yell county.....	B. S. A.
Blakely, Martin.....	Fayetteville, Washington county.....	B. S. A.
Bocquin, Bernie.....	Ft. Smith, Sebastian county.....	B. S. A.
Booker, Wm. B.....	Columbus, Hempstead county.....	M. E.
Boone, D. A.....	Fayetteville, Washington county.....	L. I.
Bray, Etta.....	Fayetteville, Washington county.....	L. I.
Brewster, Thomas W.....	Hubbard, Washington county.....	C. E.
Brookfield, Ben.....	Wynne, Cross county.....	C. E.
Brown, Guy.....	Vau Buren, Crawford county.....	B. A.
Brown, Frank.....	Talibina, Indian Territory.....	C. E.
Bryan, Addis.....	Vau Buren, Crawford county.....	B. S. A.
Buckner, Walker.....	Fayetteville, Washington county.....	C. E.
Carden, C. R.....	Perryville, Perry county.....	B. S. A.
Carter, Paul D.....	Fayetteville, Washington county.....	M. E.
Carter, G. W.....	Carter's St re, Washington county.....	C. E.
Caruthers, Fred.....	Ft. Smith, Sebastian county.....	B. A.
Chapman, W. C.....	Cincinnati, Washington county.....	B. S. A.
Coffey, Emma.....	Fayetteville, Washington county.....	L. I.
Coker, G. W.....	Plantersville, Drew county.....	B. S. A.
Cox, Eugene.....	Haynes, Lee county.....	C. E.
Cravens, Harris E.....	Fayetteville, Washington county.....	C. E.
Cravens, W. L.....	Patterson Bluff, Logan county.....	B. S. A.
Culpepper, Lawrence.....	Pine Bluff, Jefferson county.....	B. S. A.
Drain, Rob't.....	Huntsville, Madison county.....	C. E.
Duncan, Cameron.....	Fayetteville, Washington county.....	B. A.
Edmonds, David.....	Fayetteville, Washington county.....	C. E.
Fannin, Fredrica.....	Hackett City, Sebastian county.....	B. A.
Fannin, Fred.....	Hackett City, Sebastian county.....	B. A.
Ferguson, Gussie.....	Fayetteville, Washington county.....	B.

NAME	RESIDENCE.	COURSE.
Foster, John E.	Ft. Smith, Sebastian county	B. A.
Frazier, John B.	Fayetteville, Washington county	B. S. A.
Freyschlag, Sallie	Fayetteville, Washington county	L. I.
Frost, E. L.	Hampton, Calhoun county	B. S. A.
Gatewood, James E.	Lonoke, Lon ke county	B. A.
Gideon, Dan.	Cotton Plant, Monroe county	B. S. A.
Gladden, Geo. L.	Rover, Yell county	B. S. A.
Goddard, Chas. W.	Evansville, Washington county	L. I.
Gordon, James	Morrilton, Conway county	M. E.
Hall, Una	Fayetteville, Washington county	B. A.
Hall, Ida	Canon, Sharp county	L. I.
Harper, Wm. B.	Mansfield, Sebastian county	C. E.
Harrod, Geo.	Holland, Faulkner county	B. A.
Haws, Jno. P.	Fayetteville, Washington county	C. E.
Henry, Frank	Magnet, Hot Spring county	B. S. A.
Hensley, J. Wayne	Ozark, Franklin county	B. S. A.
Hickman, Birdie	Pittsburg, Kansas	B. S.
Hight, Beulah	Whitner, Madison county	L. I.
Hoge, Horace	Fayetteville, Washington county	B. S. A.
Hollis, J. H.	Orland, Cleveland county	M. C.
Hopkins, Geo. T.	Greeneborough, Greene county	B. S.
Hudson, Libbie	Fayetteville, Washington county	B. A.
Jackson, Oza	Fayetteville, Washington county	B. S.
Jackson, Hugh	Fayetteville, Washington county	M. E.
James, Agnes	Fayetteville, Washington county	B. S.
Jennings, Orville	Little Rock, Pulaski county	B. A.
Jobe, Fannie	Fayetteville, Washington county	B. S.
Johnson, Boyd B.	Des Arc, Prairie county	B. S. A.
Johnson, Hugh L.	Fayetteville, Washington county	C. E.
Jones, John E.	Fayetteville, Washington county	B. S. A.
Jones, Isaac D.	Cove, Polk county	B. S. A.
Kirk, Albert S.	Cassville, Missouri	C. E.
Lane, J. R.	Mansfield, Sebastian county	C. E.
Lang, Wm. H.	Fayetteville, Washington county	B. S.
Lee, Eva	Fayetteville, Washington county	B. S.
Leverett, Charles J.	Fayetteville, Washington county	B. S. A.
Leverett, Abbie	Fayetteville, Washington county	B. A.
Linzee, Harley	Pierre City, Missouri	M. E.
Loughborough, J. F.	Little Rock, Pulaski county	C. E.
Marion, Willie	Fayetteville, Washington county	B. S.

NAME.	RESIDENCE.	COURSE.
Mayer, Charles S.	Johnson, Washington county	B. S. A.
McCarrell, Sidney	Danville, Yell county	B. S. A.
McClair, Augusta B.	Pine Bluff, Jefferson county	B. A.
McClay, Randall	Fayetteville, Washington county	B. S.
McFotosh, J. E.	Eagle Hill, Polk county	B. S. A.
McKelvey, Wm. F.	Gainesville, Greene county	B. S.
McKinnon, Geo. C.	Clarksville, Johnson county	M. E.
McNeely, Susie	Black Rock, Polaski county	B. S.
Medearis, R. D.	Walton, Lawrence county	B. S. A.
Meister, Charles	Coal Hill, Johnson county	M. E.
Miller, Thomas A.	Malvern, Hot Spring county	B. S. A.
Miller, C. H.	Verona, Lawrence county	C. F.
Millsaps, Wm. J.	Fayetteville, Washington county	M. E.
Mitchell, J. L.	Prairie Grove, Washington county	B. S. A.
Moore, Jesse F.	Fayetteville, Washington county	M. E.
Moore, Nolan	Fayetteville, Washington county	M. E.
Moore, Howard	Texarkana, Miller county	B. A.
Mullins, Ola	Fayetteville, Washington county	B. S.
Mullins, Jno. S.	Fayetteville, Washington county	M. E.
Mullins, Lucy	Fayetteville, Washington county	L. I.
Myers, John H.	Fayetteville, Washington county	C. F.
Norwood, Harry L.	Locksburg, Sevier county	B. S.
Payne, Okla.	Ft. Smith, Sebastian county	B. S.
Pettus, Ernest G.	Des Arc, Prairie county	B. S. A.
Phillips, Rob't H.	Powhatan, Lawrence county	B. S. A.
Phillips, T. J.	Newport, Jackson county	M. E.
Phillips, Joe R.	McAllister, Indian Territory	M. E.
Pitman, Rob't T.	Fayetteville, Washington county	B. A.
Pugh, Frank	Hamburg, Ashley county	B. S. A.
Purdy, May	Fayetteville, Washington county	B. S.
Quattlebaum, J. D.	Pine Bluff, Jefferson county	M. E.
Quattlebaum, L. M.	Pine Bluff, Jefferson county	M. E.
Ratliffe, Wm. P.	Warren, Bradley county	B. S. A.
Rattenburg, Edith	Fayetteville, Washington county	B. S.
Rattenburg, Blanche	Fayetteville, Washington county	B. S.
Reed, Schöb	Little Rock, Pulaski county	C. F.
Reed, Manford E.	Johnson, Washington county	B. A.
Reinhardt, Allyn	Alma, Crawford county	M. E.
Riley, Martin	Fayetteville, Washington county	B. S. A.
Ruggles, Stewart D.	Fayetteville, Washington county	C. F.

NAME.	RESIDENCE.	COURSE.
Rutherford, Henry H.....	Ft. Smith, Sebastian county.....	B. A.
Sannomer, J. H.	Little Rock, Pulaski county.....	B. S. A.
Scarborough, Guy.....	Little Rock, Pulaski county.....	C. E.
Shipley, John.....	St. Paul, Madison county.....	B. A.
Smith, B. E.	Rover, Yell county.....	B. A.
Sorells, W. B.....	Pine Bluff, Jefferson county.....	B. A.
Spears, Thos. R.....	Clarksville, Johnson county.....	B. S. A.
Stark, H. L.....	Fayetteville, Washington county.....	M. E.
Steward, Lida.....	Alma, Crawford county.....	B. S.
Sutherland, Marcellus.....	Ozark, Franklin county.....	C. E.
Taylor, Thomas J.....	Fayetteville, Washington county.....	B. S. A.
Thomas, C. Kent.....	Fayetteville, Washington county.....	B. S. A.
Valentine, J. B.....	Webb City, Franklin county.....	B. S. A.
Varner, T. Truitt.....	Greenwood, Sebastian county.....	B. S.
Varner, Eva.....	Springdale, Washington county.....	L. I.
Vaulx, Madge.....	Fayetteville, Washington county.....	L. I.
Warfield, J. G.....	Arkansas City, De-sha county.....	B. A.
Warfield, H. C.....	Arkansas City, De-sha county.....	M. E.
Washington, John D.....	Cincinnati, Washington county.....	C. S. A.
Wellshear, Wm. S.....	Cassville, Missouri.....	C. E.
White, Fannie.....	Dutch Mills, Washington county.....	B. S.
Williams, Jennie.....	Fayetteville, Washington county.....	B. S.
Willoughby, H. L.....	Hot Springs, Garland county.....	B. S.
Wilson, Nell.....	Fayetteville, Washington county.....	B. S.
Wingo, Zenas.....	Fayetteville, Washington county.....	L. I.
Wisdom, Chas. R.....	Wyndotte, Hot Spring county.....	M. E.
Woodmansee, Clarence.....	Fayetteville, Washington county.....	B. S. A.
Woodward, G. W.....	Sub Rosa, Franklin county.....	B. S. A.
Yarbrough, Wm. P.....	Angusta, Woodruff county.....	B. S. A.
Total.....		148

B CLASS.

NAME.	TOWN.	COUNTY.
Allen, Edna.....	Farmington.....	Washington
Anderson, Edmond C.....	Star City.....	Lincoln
Araett, N. B.....	Fayetteville.....	Washington
Askew, Ed. E.....	El Dorado.....	Union
Baker, W. A.....	Dallas.....	Polk
Baughman, Ed.....	Pine Bluff.....	Jefferson
Baum, Ed.....	Ft. Smith.....	Sebastian

NAME.	TOWN.	COUNTY.
Beattie, Woodfin.....	Little Rock.....	Pulaski
Belding, A. G.....	Hot Springs.....	Garland
Belt, Mattie.....	Hackett City.....	Sebastian
Bishop, Anne.....	Fayetteville.....	Washington
Blackmer, A. Clint.....	Fayetteville.....	Washington
Bower, Lillie.....	Oak Lodge.....	Indian Territory
Boyd, Robert.....	Paragould.....	Greene
Brandon, Wm. E.....	Hackett City.....	Sebastian
Brookfield, Viola.....	Wynne.....	Cross
Brown, Earls.....	Fayetteville.....	Washington
Brown, E.....	Russellville.....	Pope
Buckner, Geo. W.....	Fayetteville.....	Washington
Buckner, Chas. R.....	Fayetteville.....	Washington
Bug, O. L.....	Canal.....	Sebastian
Bush, Jesse.....	Helena.....	Phillips
Bush, Walter.....	Helena.....	Phillips
Campbell, Geo. M.....	Van Buren.....	Crawford
Carlisle, Ed.....	Fayetteville.....	Washington
Cawood, Henry V.....	Osage Mills.....	Benton
Church, John W.....	Galena.....	Howard
Cornelius, Fred.....	Van Buren.....	Crawford
Cornelius, Rose.....	Van Buren.....	Crawford
Cornelius, Gus.....	Van Buren.....	Crawford
Cornelius, Ben.....	Van Buren.....	Crawford
Cravens, Eli H.....	Van Buren.....	Crawford
Crenshaw, Wm. B.....	Dummett.....	Chicot
Crozier, Arthur B.....	Fayetteville.....	Washington
Cauliffe, Jno.....	Fayetteville.....	Washington
Cunningham, Geo.....	Hot Springs.....	Garland
Davis, Jno. M.....	Lamar.....	Johnson
Earle, Ben R.....	Scotlands.....	Crittenden
Edmiston, Chas.....	Prairie Grove.....	Washington
Fishback, Herbert.....	Ft. Smith.....	Sebastian
Fletcher, Tucker.....	Pine Bluff.....	Jefferson
Gibney, Sam.....	Dutch Mills.....	Washington
Gladden, A. Lee.....	Rover.....	Yell
Godfrey, Joe H.....	Pine Bluff.....	Jefferson
Golliday, Jas. E.....	Hot Springs.....	Garland
Gray, Lillie.....	Fayetteville.....	Washington
Greathouse, Addie.....	Fayetteville.....	Washington

NAME.	TONN.	COUNTY.
Greer, Luther H.....	Searcy.....	White
Griffin, Maggie.....	Fayetteville.....	Washington
Guthree, Hugh L.....	Powhatan.....	Lawrence
Guthree, Jno. T.....	Powhatan.....	Lawrence
Halley, Hunter.....	Halley.....	Desha
Ham, Fred.....	Verona.....	Lawrence
Hensley, Ida.....	Granby.....	Missouri
Hester, Louis P.....	Fayetteville.....	Washington
Higginbotham, Sanford.....	Fordyce.....	Dallas
Hilderbrand, David.....	Crawfordsville.....	Crittenden
Howard, Helen.....	Fayetteville.....	Washington
Hudgins, Oscar.....	St. Francis.....	Clay
Hudgins, Jacob.....	Star City.....	Lincoln
Hunt, Sam L.....	Fayetteville.....	Washington
Jacks, Bettie.....	Helena.....	Phillips
Jacks, Dan.....	Helena.....	Phillips
Jackson, Adolph.....	Little Rock.....	Pulaski
Jones, D. F.....	Coke.....	Tolk
Kitching, Stanley.....	Forest Cottage.....	Jefferson
Knaul, Guy W.....	Des Arc.....	Prairie
Langston, Lee.....	Fayetteville.....	Washington
Langston, Ada.....	Fayetteville.....	Washington
Lee, Jas. A.....	Linder.....	Faulkner
Lee, Carrie.....	Fayetteville.....	Washington
Lewis, Lena.....	Fayetteville.....	Washington
Loftis, Seth W.....	Clinton.....	Yell
Mayes, Wm. A.....	Fayetteville.....	Washington
McCormick, Chas.....	Fayetteville.....	Washington
McCreher, Robert.....	Pine Bluff.....	Jefferson
McIlroy, Kate.....	Fayetteville.....	Washington
McNair, Maggie.....	Fayetteville.....	Washington
McNair, May.....	Fayetteville.....	Washington
McRoy, Mack.....	Fayetteville.....	Washington
Miller, Walter.....	Washington.....	Hot Spring
Mire, Eugene.....	St. Charles.....	Indian Territory
Moore, Martha.....	Clinton.....	Washington
Moore, Cora.....	Little Rock.....	Pulaski
Moore, Gentie.....	Oak Lodge.....	Indian Territory
Morris, Joseph D.....	Arkansas City.....	Desha
Murfee, Hunter.....	Fayetteville.....	Washington

NAME.	TOWN.	COUNTY.
Murfee, Manning.....	Fayetteville.....	Washington
Murfee, Howard.....	Fayetteville.....	Washington
Murphy, James.....	Dallas.....	Texas
Murray, Augusta.....	Fayetteville.....	Washington
Nelson, Chas. H.....	Benton.....	Hempstead
Nelson, Wm. S.....	Hope.....	Hempstead
Nichols, Rob't.....	Atoka.....	Indian Territory
Northcut, Mary.....	Alma.....	Crawford
Pettigrew, Nellie.....	Fayetteville.....	Washington
Rainey, P. L.....	Rainey P. O.....	Jefferson
Rainwater, Carrie.....	Fayetteville.....	Washington
Riley, Cora.....	Fayetteville.....	Washington
Roll, Bert.....	Fayetteville.....	Washington
Ritledge, Lena.....	Fayetteville.....	Washington
Sanderson, Sam.....	Robinson.....	Washington
Savage, C. C.....	Sebastian.....	Sebastian
Scott, S. A. B.....	Shreveport.....	Shreve
Scott, M.....	Washington.....	Washington
Scott, Willard B.....	Washington.....	Washington
Scott, Wm. M.....	Fayetteville.....	Washington
Scott, Jas. E.....	Fayetteville.....	Washington
Scott, Jas. W.....	Fayetteville.....	Washington
Seroggins, Jas. C.....	Morrilton.....	Coway
Siff, Thomas.....	Little Rock.....	Pulaski
Shaff, Herman.....	Pine Bluff.....	Jefferson
Smith, C. H.....	Washington.....	Washington
Standley, J. S.....	Atoka.....	Indian Territory
Stone, May.....	Fayetteville.....	Washington
Suratt, Willis.....	Fort Smith.....	Sebastian
Taylor, M.....	Washington.....	Washington
Templeton, Wade A.....	Randolph.....	Randolph
Towell, Thos. E.....	Johnson.....	Johnson
Thorn, Mary V.....	Washington.....	Washington
Va. Holt, Nellie.....	Texas.....	Texas
Vaughan, M.....	Washington.....	Washington
Vaught, L. A.....	Crawford.....	Crawford
Vandy, Kate.....	Fayetteville.....	Washington
Wade, Lila.....	Fayetteville.....	Washington
Wade, Thos. T.....	Blanchard Springs.....	Union
Watson, Geo. W.....	Aberdeen.....	Mississippi

NAME.	TOWN.	COUNTY.
Warden, Bessie.....	Fayetteville	Washington
Washington, Ruby.....	Fayetteville	Washington
White, John.....	Hagler	Arkansas
White, Shannon.....	Bayou Meto	Arkansas
Whitten, Geo. W.....	Fayetteville	Washington
Wlgs, Henry B.....	Little Rock.....	Pulaski
Williams, Andrew F.....	Pine Bluff	Jefferson
Wood, Norma.....	Van Buren	Crawford
Wright, Moses.....	Washington	Hempstead
Total.....		136

IRREGULAR.

NAME.	TOWN.	COUNTY.
Davidson, Lenna.....	Fayetteville	Washington
Heberly, Joseph A.....	Fayetteville.....	Washington
Total.....		2

NOT CLASSIFIED.

NAMES.	TOWN.	COUNTY.
Benbrook, Agnes.....	Fayetteville	Washington
Boothe, W. A.	Tomlinson	Scott
Collins, Tom.....	Little Rock	Pulaski
Curry, Sarah E.....	Fayetteville	Washington
Harris, Henry A.....	Star City.....	Lincoln
Henderson, May.....	Bentonville.....	Benton
James, Ed. D.....	Fayetteville	Washington
James, Tom.....	Fayetteville	Washington
Jones, Bettie C.....	Cove	Polk
Messler, Rector.....	Fayetteville	Washington
Moore, George W.....	Hackett City.....	Sebastian
Shuler, Frank.....	Hackett City.....	Sebastian
Smith, M. Tho.....	Pine Bluff	Jefferson
Total		13

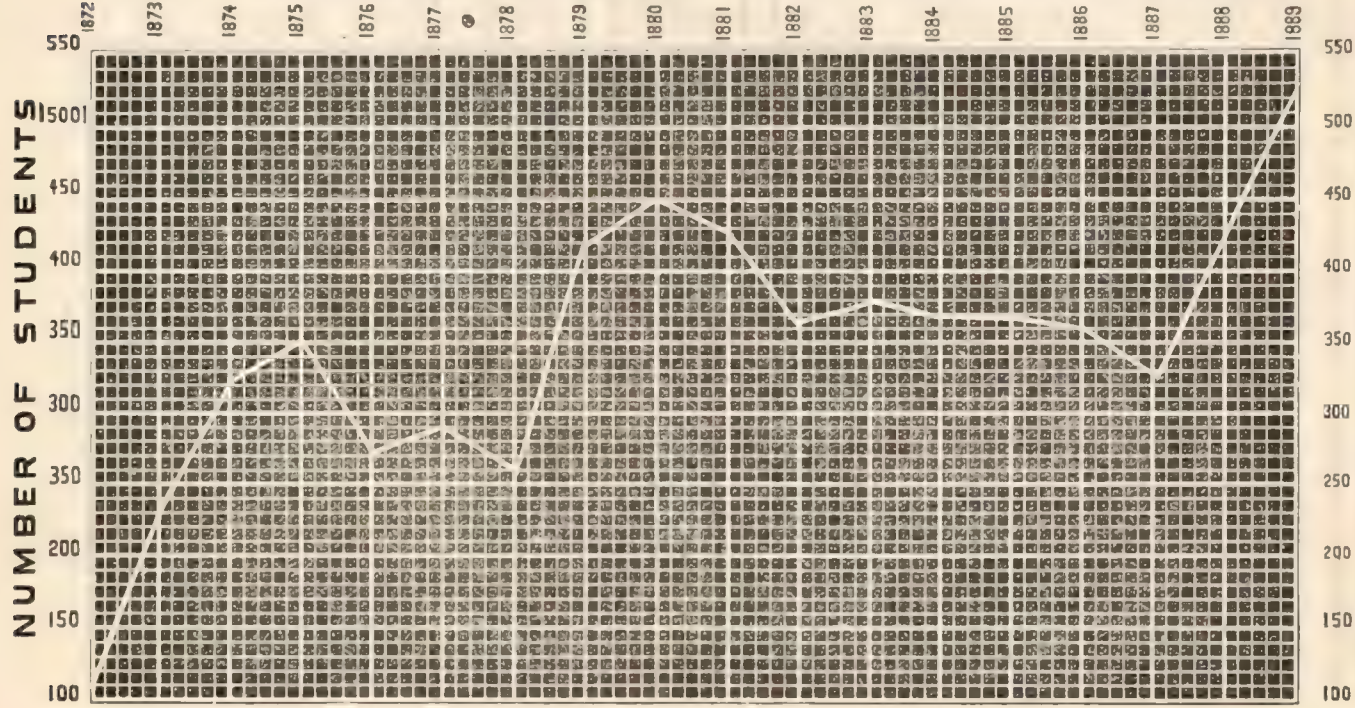
MUSIC.

Number of pupils (names not repeated)..... 25

SUMMARY BY COURSES.

Doctor of Philosophy.....	2
Bachelor of Arts	69
Civil Engineering	61
Mechanical Engineering.....	31
Bachelor of Science	73
Bachelor of Scientific Agriculture.....	70
Licentiate of Instruction	39
Irregular.....	10
B Students (course not assigned).....	136
Not classified.....	18
Music	25
Grand Total.....	529

LINE OF ATTENDANCE FROM 1872 TO 1889 INCLUSIVE 18 YEARS



ORIGIN AND DESIGN OF THE UNIVERSITY.

The aims of the University are set forth in the following sections of the acts of Congress and of the General Assembly of Arkansas, under which it was established :

The act of Congress of 1862 (U. S. Statutes, Vol. 61, Stat. 7, sec. 4) appropriating lands to establish colleges in the States, provides that all moneys derived from their sale "shall be inviolably appropriated by each State which may take and claim the benefit of this act, to the endowment, support and maintenance of at least one college, where the leading objects shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to Agriculture and the Mechanic Arts, in such manner as the legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."

Our own General Assembly (act of July 23, 1868), in accepting the original grant and in creating the University, provides that the fund realized therefrom, "shall be forever devoted and applied to the endowment and maintenance, under such laws or articles of incorporation as may be by the General Assembly hereafter provided, of an institution of learning to be styled 'The Arkansas Industrial University,' wherein shall be taught, in addition to the usual course of study prescribed in universities, the science and practice of Agriculture, the Mechanical Arts, Engineering and Military Science and Tactics."

In order further to emphasize the Agricultural and Mechanical Departments, the General Assembly, in an act approved March 30, 1887, made handsome appro-

priations to put these leading departments on a broad and firm foundation, and ordained that all male *beneficiaries* should pursue one of these courses; restricted the subjects to be taught to be beneficiaries; and fixed the number and character of the professorships. The evident design of the Legislature was to respond to the demands and needs of the State, by creating an Agricultural and Mechanical Institution, with such subsidiary courses as the amount of the appropriation would allow. The present Board of Trustees and the Faculty of the institution, aware of the necessities of the State and fully in accord with the policy outlined by the Legislature, have done all in their power, in laying out the appropriation and drawing up the Courses of Study, to meet the wants, both of the great mass of the State, and also of the minority, in a subsidiary way. We are fully persuaded that the Agricultural and Mechanical courses here offered, and the facilities afforded by the legislative appropriations, will enable us to turn out graduates in these departments that will compare favorably with those of any other school, while at the same time, with little or no additional cost to the State, strong Classical and Normal courses have been laid down.

COURSES OF INSTRUCTION.

The courses offered are the following:

1. Agricultural, leading to the degree of B. S. A.....	See Schedule p. 35	Detailed Statement p. 49
2. Short Agricultural, ending with Sophomore year.....	" " " 36	" " " 57
3. Mechanical Engineering, leading to Degree of B. M. E.....	" " " 37	" " " 63
4. Manual Training, ending with the Sophomore year.....	" " " 38	" " " 59
5. Civil Engineering, leading to the Degree of B. C. E.....	" " " 39	" " " 65
6. Scientific, leading to the Degree of B. S.....	" " " 40	" " " 30
7. Classical course, leading to the Degree of B. A.....	" " " 41	" " " 29
8. Normal course, leading to the Certificate of L. I.....	" " " 42	" " " 82

Courses 1, 2, 3, 4, 5 and 6 are free to all beneficiaries, but if any language other than English is taken, the regular tuition fee is charged.

Courses 7 and 8 can be taken only by the payment of the regular tuition fee of ten dollars per year.

All courses *for male students* are required to include practical work at from three cents to ten cents per hour. The hours of the day are, therefore, divided into two parts; the morning hours are devoted to recitations and lectures in the various courses; three hours of the afternoon are devoted to the various kinds of practical work. The schedule of courses from p. 35 to 42 inclusive, includes only the five periods into which the hours from 9 a. m. to 12:20 p. m. are divided. For afternoon work all male students are referred to p. 43 and following, where the full schedule of afternoon work is given.

Arrangements have been made so that a student in any course *may*, by application to the Faculty, and at the discretion of that body, take, as a fifth study, French in the Freshman and Sophomore years, and German in the Junior and Senior years; and where possible, as stated in schedule (pp. 35 to 42 inclusive), the student has been allowed to use his own discretion in choosing the studies marked with a dagger; but in all cases, beneficiaries, when they take any language other than English, must pay the regular tuition fee of ten dollars per year.

CLASSICAL COURSE.

The Classical Course is intended to meet the wants of those who, while strong and steady enough to do the practical work required, have the energy and will-power to do the mental work of a B. A. course, and obtain that degree as a basis for professional life, or for mental training; of those who have State pride enough not to want to go outside of the State to obtain that training which the State *ought to, can, and does* afford its sons.

The very best material of the State, thus dissociated from all its interests and belongings during the whole period of training, is either permanently lost to the State, or comes back to work at an immense disadvantage for want of knowledge of those of whom, under other circumstances, there would have existed the truest of all knowledge, the intimate association of college life. We call upon the patriotism of the State to stop this annual emigration, and are glad to be able on our part to offer a strong and carefully planned B. A. course.

SCIENTIFIC COURSE.

The Scientific course is intended to offer thorough and extensive training in the principles of General Science and English, together with French and German as electives.

Especial attention is paid to the Physical and Biological Sciences.

An Elementary course embracing Chemistry, Botany and Zoology is taken in the Sub-Freshman year, and is followed by a continuation of these subjects with copious laboratory and practical work, together with a full course in Physics throughout the whole year. It is believed that the advantages offered in Chemistry, Biology and allied sciences in this course, will be found scarcely inferior to those of similar courses in any of our higher institutions of learning. The well equipped Chemical, Mineralogical and Biological laboratories of the University afford ample means of illustration, as well as excellent opportunities for practical scientific work, and for original investigations.

A term in the Senior year is devoted to school management, with special reference to the needs of those intending to become teachers. This subject, however, is optional with an advanced course in Electricity.

Those who satisfactorily complete the course in

General Science are entitled to the degree of B. S. (Bachelor of Science). The afternoon exercises in this course are confined to the Laboratory, Shop, Field Surveying and Drawing; but the student may substitute work on the farm for part of his shop work if he so desire. The course in General Science is open to all beneficiaries, but if they choose to take additional work in French or German they must pay the regular tuition fee of ten dollars per year.

MANUAL TRAINING.

By a resolution of the Board of Trustees, every parent or guardian is required to choose for his son or ward, if a minor, either the Mechanical or Agricultural course of labor, and to make a written communication to the President at the entrance of the student, stating the choice made.

CONDITIONS FOR ADMISSION TO FRESHMAN CLASS.

All new students seeking to enter the Freshman Class will be examined in Geography, U. S. History, English Grammar (Analysis and Composition), Arithmetic, Algebra (to Quadratic Equations), and Latin if the course of study embraces Latin.

Candidates for higher classes, or for the Freshman Class, after beginning of session, will be examined also in subjects passed over by the class.



NEW DORMITORY BUILDING.



COURSES OF STUDY 1889-90.

I.—AGRICULTURAL COURSE FOR THE DEGREE OF BACHELOR OF SCIENTIFIC AGRICULTURE (B. S. A.).

COURSES.	HOURS.	FIRST TERM.	SECOND TERM.	THIRD TERM.
A CLASS.	1	English Gram. and Comp.	English Gram. and Comp.	English Gram. and Comp.
	2	Arithmetic	Arithmetic.....	Arithmetic.
	3	Geography.....	U. S. History.....	U. S. History.
	4	Reading and Spelling	Reading and Spelling.....	Reading and Spelling.
SUB-FRESHMAN CLASS.	1	Elementary Chemistry.....		
	2		Elementary Botany.....	Elementary Physiology.
	3	Algebra	Algebra.....	Algebra
	4	Physical Geography.....	Phy. Geog. and B'k-k'p'g.	Book-keeping.
	5	English Anal. and Comp.	English Anal. and Comp.	English Anal. and Comp.
FRESHMAN CLASS.	1	Algebra.....	Algebra and Geometry.....	Geometry.
	2	Rhetoric.....	Rhetoric.....	Historical Grammar.
	3			
	4	Physics	Physics	Agriculture.
	5	Physiology	Botany	Zoology.
SOPHOMORE CLASS.	1	General History.....	General History.....	General History.
	2	Structural Botany.....	Entomology.....	Stock Feeding.
	3	General Chemistry.....	General Chemistry.....	General Chemistry.
	4			
	5	Trigonometry.....	Civics.....	Veterinary Anatomy.
JUNIOR CLASS.	1	Mineralogy	Geology	Geology.
	2			Horticulture.
	3	Veterinary Anatomy.....	Veterinary Science.....	Veterinary Science.
	4	Analytical Chemistry.....	Analytical Chemistry.....	Analytical Chemistry.
	5	Agriculture	Agriculture	
SENIOR CLASS.	1			
	2	Veterinary Science.....	Dairy Husbandry.....	Dairy Husbandry.
	3	Horticulture	Surveying.....	Agricultural Machinery.
	4	Stock Breeding.....	Stock Breeding.....	Stock Breeding.
	5	Analytical Chemistry.....	Agricult'l Chemistry.....	Political Economy.

COURSES OF STUDY—*Continued.*

II.—SHORT AGRICULTURAL COURSE.

Classes.	Hours.			
		FIRST TERM.	SECOND TERM.	THIRD TERM.
A CLASS.	1	English Gram. and Comp.	English Gram. and Comp.	English Gram. and Comp.
	2	Arithmetic	Arithmetic	Arithmetic.
	3	Geography.....	U. S. History	U. S. History.
	4	Reading and Spelling.....	Reading and Spelling.....	Reading and Spelling.
SUB-FRESHMAN CLASS.	1	Elementary Chemistry. .		
	2		Elementary Botany.....	Elementary Physiology.
	3	Algebra	Algebra.....	Algebra.
	4	Physical Geography.....	Phy. Geog. and B'k-k'p'g.	Book-keeping.
	5	English Anal. and Comp.	English Anal. and Comp.	English Anal. and Comp.
FRESHMAN CLASS.	1	Algebra	Algebra and Geometry.....	Geometry.
	2	Rhetoric.....	Rhetoric.....	Historical Grammar.
	3			
	4	Physics	Agriculture	Agriculture.
	5	Physiology.....	Botany.....	Zoology.
SOPHOMORE CLASS.	1	General History.....	General History.....	General History.
	2	Horticulture.....	Dairy Husbandry	Dairy Husbandry.
	3	General Chemistry.....	General Chemistry.....	General Chemistry.
	4	Stock Breeding.....	Stock Breeding	Stock Breeding.
	5			

COURSES OF STUDY—*Continued.*III.—MECHANICAL ENGINEERING COURSE FOR DEGREE OF
BACHELOR OF MECHANICAL ENGINEERING (B. M. E.).†

CLASSES.	HOURS.	FIRST TERM.	SECOND TERM.	THIRD TERM.
A CLASS.	1	English Gram. and Comp.	English Gram. and Comp.	English Gram. and Comp.
	2	Arithmetic	Arithmetic	Arithmetic.
	3	Geography.....	United States History	United States History.
	4	Reading and Spelling ..	Reading and Spelling.....	Reading and Spelling.
SUB-FRESHMAN CLASS.	1	Elementary Zoology.....	.....	.....
	2	.....	Elementary Botany	Elementary Physiology.
	3	Algebra	Algebra.....	Algebra.
	4	Physical Geography	Phy. Geog. and Bk-k'p'g	Book-keeping.
	5	English Anal. and Comp.	English Anal. and Comp.	English Anal. and Comp.
FRESHMAN CLASS.	1	Algebra.....	Algebra and Geometry ..	Geometry.
	2	Rhetoric	Rhetoric	Historical Grammar.
	3	French elective	French elective.....	French elective.
	4	Physics	Physics	Physics.
	5	Shop Work Appliances	Roads, Streets & Pavem'ts.	Descriptive Geometry.
SOPHOMORE CLASS.	1	General History	General History.....	General History. .
	2	Heat.....	Surveying	Surveying.
	3	General Chemistry	General Chemistry	General Chemistry.
	4	French elective	French elective	French elective.
	5	Trigonometry.....	Analytical Geometry....	Analytical Geometry.
JUNIOR CLASS.	1	Elements of Mechanism	Machinery and Mill Work	Machinery and Mill Work.
	2	Calculus	Calculus	Machine Design.
	3	Steam Engineering	Steam Engineering	Elementary Mechanics.
	4	Analytical Chemistry	Analytical Chemistry	Analytical Chemistry.
	5	German (elective).....	German (elective).....	German (elective).
SENIOR CLASS.	1	Applied Mechanics.....	Applied Mechanics	Methods of Testing Steam Machinery
	2	Metallurgy	Methods of Least Squares	Hydraulic Engineering.
	3	Thermodynamics	Boiler Design	Steam Engine Design.
	4	German (elective).....	German (elective).....	German (elective).
	5	Sanitary Engineering	Vacuum Engineering	Electrical Engineering

† Drawing, Shop Work, Surveying and Laboratory Practice are included in the practical afternoon exercises. The Degree of M. E. will be given three years after graduation to those who by successful practice prove themselves worthy.

‡ This will be supplemented by lectures on Specifications and Laws of Contracts.

COURSES OF STUDY—*Continued.*

IV.—MANUAL TRAINING COURSE.†

CLASSES.	HOURS.	FIRST TERM.	SECOND TERM.	THIRD TERM.
A CLASS.	1	English Gram. and Comp.	English Gram. and Comp.	English Gram. and Comp.
	2	Arithmetic	Arithmetic.....	Arithmetic.
	3	Geography.....	United States History.....	United States History.
	4	Reading and Spelling.....	Reading and Spelling.....	Reading and Spelling.
SUB-FRESHMAN CLASS.	1	Elementary Zoology.....	.....	.....
	2	.....	Elementary Botany.....	Elementary Physiology.
	3	Algebra.....	Algebra.....	Algebra.
	4	Physical Geography.....	Phy. Geog. and B'k-k'p'g.	Book-keeping.
	5	English Anal. and Comp.	English Anal. and Comp.	English Anal. and Comp.
FRESHMAN CLASS.	1	Algebra	Algebra and Geometry.....	Geometry.
	2	Rhetoric	Rhetoric	Historical Grammar.
	3	French (elective).....	French (elective).....	French (elective).
	4	Physics	Physics	Physics.
	5	Shop Work Appliances...	Roads, Streets & Pavem'ts	Descriptive Geometry.
SOPHOMORE CLASS.	1	Steam Engineering.	Steam Engineering.....	Elements of Mechanism.
	2	Steam Engineering.....	Heat.....	Boiler Design.
	3	General Chemistry.....	General Chemistry.	Elementary Mechanics.
	4	.....	.....	.....
	5	Trigonometry	Analytical Geometry.....	Analytical Geometry.

† Drawing and Shop Work constitute the practical afternoon exercises.

A certificate will be given to those who complete the course.

COURSES OF STUDY—Continued.

V.—CIVIL ENGINEERING COURSE FOR DEGREE OF BACHELOR OF CIVIL ENGINEERING (B. C. E).†

CLASSES, HOURS,		FIRST TERM.	SECOND TERM.	THIRD TERM.
A CLASS.	1	English Gram. and Comp.	English Gram. and Comp.	English Gram. and Comp.
	2	Arithmetic	Arithmetic	Arithmetic.
	3	Geography	United States History.....	United States History.
	4	Reading and Spelling	Reading and Spelling.....	Reading and Spelling.
SUB-FRESHMAN CLASS.	1	Elementary Zoology.....	.....	.....
	2	.....	Elementary Botany.....	Elementary Physiology.
	3	Algebra.....	Algebra	Algebra.
	4	Physical Geography.....	Phys. Geog. and B'k-k'p'g.	Book-keeping.
	5	English Anal. and Comp.	English Anal. and Comp.	English Anal. and Comp.
FRESHMAN CLASS.	1	Algebra.....	Algebra and Geometry ...	Geometry.
	2	Rhetoric	Rhetoric	Historical Grammar.
	3	French (elective)	French (elective)	French (elective).
	4	Physics	Physics.....	Physica.
	5	Shop Work Appliances	Rooms, Streets & Pavements.	Descriptive Geometry.
SOPHOMORE CLASS.	1	General History.....	General History	General History.
	2	Heat	Surveying	Surveying.
	3	General Chemistry	General Chemistry	General Chemistry.
	4	French elective	French elective	French elective.
	5	Trigonometry.	Analytical Geometry	Analytical Geometry.
JUNIOR CLASS.	1	Steam Engineering	Geology.....	Economic Geology.
	2	Calculus	Calculus.....	Geodesy.
	3	Railroad Engineering	Railroad Engineering.....	Elementary Mechanics.
	4	Analytical Chemistry.....	Analytical Chemistry	Analytical Chemistry.
	5	German elective	German elective	German (elective).
SENIOR CLASS.	1	Applied Mechanics	Applied Mechanics.	Engineering Structures.*
	2	Metallurgy	Methods of Least Squares	Hydraulic Engineering.
	3	Astronomy	Bridge Engineering.....	Bridge Engineering.
	4	German elective	German elective	German elective.
	5	Sanitary Engineering	Arches and Dams.....	Electrical Engineering.

† Drawing, Surveying, Shop Work, and Laboratory Practice constitute the practical afternoon exercises. The Degree of C. E. will be given three years after graduation to those who by successful practice have proven themselves worthy.

This will be supplemented by Lectures on Specifications and Laws of Contracts.

COURSES OF STUDY—*Continued.*

VI.—SCIENTIFIC COURSE FOR DEGREE OF BACHELOR OF SCIENCE (B. S.).

CLASSES.	HOURS.	FIRST TERM.	SECOND TERM.	THIRD TERM.
A CLASS.	1	English Gram. and Comp.	English Gram. and Comp.	English Gram. and Comp.
	2	Arithmetic.....	Arithmetic.....	Arithmetic.
	3	Geography.....	United States History.....	United States History.
	4	Reading and Spelling.....	Reading and Spelling.....	Reading and Spelling.
SUB-FRESHMAN CLASS.	1	Elementary Chemistry.....		
	2		Elementary Botany.....	Elementary Physiology.
	3	Algebra.....	Algebra.....	Algebra.
	4	Physical Geography.....	Physical Geography and Book-keeping.....	Book-keeping.
	5	English Anal. and Comp.	English Anal. and Comp.	English Anal. and Comp.
FRESHMAN CLASS.	1	Algebra.....	Algebra and Geometry.....	Geometry.
	2	Rhetoric.....	Rhetoric.....	Historical Grammar.
	3			
	4	Physics.....	Physics.....	Physics.
	5	Zoology.....	Botany.....	Physiology.
SOPHOMORE CLASS.	1	General History.....	General History.....	General History.
	2	Structural Botany.....	Entomology.....	Horticulture.
	3	General Chemistry.....	General Chemistry.....	General Chemistry.
	4			
	5	Trigonometry.....	Analytical Geometry.....	Analytical Geometry.
JUNIOR CLASS.	1	Mineralogy.....	Geology.....	Geology.
	2	Astronomy.....	Astronomy and Logic.....	Logic.
	3	Eng. Literature or Germ'n	Eng. Literature or Germ'n	Eng. Literature or Germ'n
	4	Analytical Chemistry.....	Analytical Chemistry.....	Analytical Chemistry.
	5			
SENIOR CLASS.	1			
	2	Anglo-Saxon or French.....	Anglo-Saxon or French.....	Eng. Philosophy or French
	3	Civics.....	Surveying or History of Education.....	Electricity or School Management.
	4	Advanced Biology or Heat, or Metallurgy.....	Advanced Biology.....	Economic Geology.
	5	Psychology.....	Psychology and Ethics.....	Political Economy.

COURSES OF STUDY—Continued.

VII.—CLASSICAL COURSE FOR THE DEGREE OF BACHELOR OF ARTS (B. A.)

CLASSES.	HOURS.	FIRST TERM.	SECOND TERM.	THIRD TERM.
A CLASS.	1	English Gram. and Comp.	English Gram. and Comp.	English Gram. and Comp.
	2	Arithmetic	Arithmetic	Arithmetic.
	3	Geography	United States History.....	United States History.
	4	Reading & Spelling (opt'l)	Reading & Spelling (opt'l)	Reading & Spelling (opt'l)
	5	Latin	Latin	Latin.
SUB-FRESHMAN CLASS.	1	Elementary Zoology (opt'l)	Elementary Botany (opt'l)	Book-keeping.
	2	Latin	Latin	Latin.
	3	Geometry	Algebra	Algebra.
	4	Physical Geography.....	Phy. Geog. and B'k-k'p'g.	Physiology (optional).
	5	English Anal. and Comp.	English Anal. and Comp.	English Anal. and Comp.
FRESHMAN CLASS.	1	Algebra	Algebra and Geometry.....	Geometry.
	2	Rhetoric.....	Rhetoric.....	Historical Grammar.
	3	†Greek, †French.....	Greek, †French	†Greek, †French.
	4	†Physics	†Physics	†Physics.
	5	Latin	Latin	Latin.
SOPHOMORE CLASS.	1	General History	General History.....	General History.
	2	Latin	Latin ..	Latin.
	3	†General Chemistry.....	†General Chemistry	†General Chemistry.
	4	†Greek, †French.....	†Greek, †French.....	†Greek, †French.
	5	Trigonometry	Analytical Geometry....	Analytical Geometry.
JUNIOR CLASS.	1	†Mineralogy	†Geology	Latin.
	2	Astronomy or Calculus...	Astronomy or Calculus ...	†Calculus.
	3	English Literature	English Literature.....	English Literature.
	4	Latin	Latin	Logic.
	5	†Greek, †German	†Greek, †German	†Greek, †German.
SENIOR CLASS.	1	Latin	Latin	Latin.
	2	Anglo-Saxon.....	Anglo-Saxon.....	English Philology.
	3	†Greek, †Civics.....	†Greek	†Greek, †Electricity.
	4	†German	†German, †Surveying.....	†German.
	5	Psychology	Psychology and Ethics ..	Ethics & Political Economy.

† Of the studies thus marked in each term, one is required.

COURSES OF STUDY—*Continued.*

VIII—NORMAL COURSE.

CLASSES.	HOURS.	FIRST TERM.	SECOND TERM.	THIRD TERM.
A CLASS.	1	English Gram. and Comp.	English Gram. and Comp.	English Gram. and Comp.
	2	Arithmetic.....	Arithmetic.....	Arithmetic.
	3	Geography.....	United States History.....	United States History.
	4	Reading & Spelling (opt'l)	Reading & Spelling (opt'l)	Reading & Spelling (opt'l).
	5	Latin.....	Latin.....	Latin.
SUB-FRESHMAN CLASS.	1	Elem'y Chemistry (opt'l)	Pedagogics.....	.....
	2	Pedagogics.....	Elementary Botany (opt'l)	Elementary Physiology.
	3	Geometry.....	Algebra.....	Algebra.
	4	Latin or Phys. Geography	Latin or Physical Geog.... and Book-keeping.	Latin or Book-keeping.
	5	English Anal. and Comp.	English Anal. and Comp.	English Anal. and Comp.
FRESHMAN CLASS.	1	Algebra.....	Algebra and Geometry....	Geometry.
	2	Rhetoric.....	Rhetoric.....	Historical Grammar or Physics.
	3	.....	History of Education.....	School Management.
	4	Physics.....	Physics (optional).....	.....
	5	Latin.....	Latin.....	Latin.
SOPHOMORE CLASS.	1	General History.....	General History or Sur- veying.....	General History (opt'l).
	2	Latin.....	Latin.....	Latin.
	3	General Chemistry.....	General Chemistry.....	Psychology.
	4	.....	Science of Education.....	School Law.
	5	Trigonometry.....	.....	Civil Government.

A certificate of Licentiate of Instruction will be given to all who complete this course.

SCHEDULE OF PRACTICAL EXERCISES AFTERNOON WORK.

CLASS.	DAY.	AGRICULTURAL COURSE.			SCIENTIFIC COURSE.		
		FIRST TERM.	SECOND TERM.	THIRD TERM.	FIRST TERM.	SECOND TERM.	THIRD TERM.
A.	Monday	Shop.....	Shop.....	Shop.....	Farm or shop.....	Farm or shop.....	Farm or shop.....
	Tuesday	Draw and Drill.....	Draw and drill.....	Draw and drill.....	Draw and drill.....	Draw and drill.....	Draw and drill.....
	Wednesday	Farm.....	Farm.....	Farm.....	Farm or shop.....	Farm or shop.....	Farm or shop.....
	Thursday	Draw and drill.....	Draw and drill.....	Draw and drill.....	Draw and drill.....	Draw and drill.....	Draw and drill.....
	Friday	Farm.....	Farm.....	Farm.....	Farm or shop.....	Farm or shop.....	Farm or shop.....
	Saturday	.....	Farm.....	.....	.....	Farm or shop.....	.....

SUB-FRESH-MAN.	Monday	Draw and drill.....	Draw and drill.....	Draw and drill.....	Draw and drill.....	Draw and drill.....	Draw and drill.....
	Tuesday	Farm.....	Farm.....	Farm.....	Farm or shop.....	Farm or shop.....	Farm or shop.....
	Wednesday	Draw and drill.....	Draw and drill.....	Draw and drill.....	Draw and drill.....	Draw and drill.....	Draw and drill.....
	Thursday	Farm.....	Farm.....	Farm.....	Farm or shop.....	Farm or shop.....	Farm or shop.....
	Friday	.....	Shop.....	.....	.....	Farm or shop.....	.....
	Saturday	Shop.....	.....	Shop.....	Farm or shop.....	.....	Farm or shop.....

FRESH-MAN.	Monday	Farm.....	Farm.....	Farm.....	Farm or shop.....	Farm or shop.....	Farm or shop.....
	Tuesday	Draw and drill.....	Draw and drill.....	Draw and drill.....	Draw and drill.....	Draw and drill.....	Draw and drill.....
	Wednesday	Farm.....	Farm.....	Farm.....	Farm or shop.....	Farm or shop.....	Farm or shop.....
	Thursday	Draw and drill.....	Draw and drill.....	Draw and drill.....	Draw and drill.....	Draw and drill.....	Draw and drill.....
	Friday	.....	.....	.....	Farm or shop.....	Farm or shop.....	Farm or shop.....
	Saturday	Shop.....	Shop.....	Shop.....	.....	.....	.....

SOPHOMORE.	Monday	Draw and drill.....	Draw and drill.....	Draw and drill.....	Draw and drill.....	Draw and drill.....	Draw and drill.....
	Tuesday	Farm.....	Farm.....	Farm.....	Farm or shop.....	Farm or shop.....	Farm or shop.....
	Wednesday	Draw and drill.....	Draw and drill.....	Draw and drill.....	Draw and drill.....	Draw and drill.....	Draw and drill.....
	Thursday	Biol. lab.....	Biol. lab.....	Shop.....	Biol. lab.....	Biol. lab.....	Shop.....
	Friday	Biol. lab.....	Biol. lab.....	Farm.....	Biol. lab.....	Biol. lab.....	Farm or shop.....
	Saturday	.....	.....	.....	.....	.....	.....

JUNIOR.	Monday	Chem. lab.....	Chem. lab.....	Chem. lab.....	Chem. lab.....	Chem. lab.....	Chem. lab.....
	Tuesday	Farm and drill.....	Drill.....	Drill.....	Farm or shop and drill.....	Drill.....	Drill.....
	Wednesday	Chem. lab.....	Chem. lab.....	Chem. lab.....	Chem. lab.....	Chem. lab.....	Chem. lab.....
	Thursday	Chem. lab and drill.....	Chem. lab and drill.....	Chem. lab and drill.....	Chem. lab and drill.....	Chem. lab and drill.....	Chem. lab and drill.....
	Friday	Chem. lab.....	Chem. lab.....	Farm.....	Chem. lab.....	Chem. lab.....	Farm or shop.....
	Saturday	.....	Geological survey.....	Geological survey.....	.....	Geological survey.....	Geological survey.....

SENIOR.	Monday	Farm and drill.....	Farm and drill.....	Farm and drill.....	Farm or shop and drill.....	Farm or shop and drill.....	Farm or shop and drill.....
	Tuesday	Farm.....	Surveying.....	Surveying.....	Farm or shop.....	Surveying.....	Surveying.....
	Wednesday	Farm and drill.....	Farm and drill.....	Farm and drill.....	Farm or shop and drill.....	Farm or shop and drill.....	Farm or shop and drill.....
	Thursday	Farm.....	Farm.....	Farm.....	Biol. lab.....	Biol. lab.....	Phys. lab.....
	Friday	Farm.....	Farm.....	Farm.....	Biol. lab.....	Biol. lab.....	Phys. lab.....
	Saturday	.....	.....	.....	.....	.....	.....

SCHEDULE OF PRACTICAL EXERCISES—AFTERNOON WORK—Continued.

CLASS	DAY.	CIVIL ENGINEERING COURSE.			MECHANICAL ENGINEERING AND MANUAL TRAINING.		
		FIRST TERM.	SECOND TERM.	THIRD TERM.	FIRST TERM.	SECOND TERM.	THIRD TERM.
A.	Monday	Draw and drill.	Draw and drill.	Draw and drill.	Draw and drill.	Shop.	Draw and drill.
	Tuesday	Shop.	Shop.	Shop.	Shop.	Draw and drill.	Shop.
	Wednesday	Draw and drill.	Draw and drill.	Draw and drill.	Draw and drill.	Shop.	Draw and drill.
	Thursday	Shop.	Shop.	Shop.	Shop.	Draw and drill.	Shop.
	Friday	Shop.	Shop.	Shop.	Shop.	Shop.	Shop.
	Saturday	Shop.	Shop.	Shop.	Shop.	Shop.	Shop.
	Saturday	Shop.	Shop.	Shop.	Shop.	Shop.	Shop.
FRESH-MAN.	Monday	Shop.	Shop.	Shop.	Shop.	Draw and drill.	Shop.
	Tuesday	Draw and drill.	Draw and drill.	Draw and drill.	Draw and drill.	Shop.	Draw and drill.
	Wednesday	Shop.	Shop.	Shop.	Shop.	Draw and drill.	Shop.
	Thursday	Draw and drill.	Draw and drill.	Draw and drill.	Draw and drill.	Shop.	Draw and drill.
	Friday	Shop.	Shop.	Shop.	Shop.	Shop.	Shop.
	Saturday	Shop.	Shop.	Shop.	Shop.	Shop.	Shop.
	Saturday	Shop.	Shop.	Shop.	Shop.	Shop.	Shop.
FRESH-MAN.	Monday	Draw and drill.	Draw and drill.	Draw and drill.	Draw and drill.	Draw and drill.	Draw and drill.
	Tuesday	Shop.	Shop.	Shop.	Shop.	Shop.	Shop.
	Wednesday	Draw and drill.	Draw and drill.	Draw and drill.	Draw and drill.	Draw and drill.	Draw and drill.
	Thursday	Shop.	Shop.	Shop.	Shop.	Shop.	Shop.
	Friday	Shop.	Shop.	Shop.	Shop.	Shop.	Shop.
	Saturday	Shop.	Shop.	Shop.	Shop.	Shop.	Shop.
	Saturday	Shop.	Shop.	Shop.	Shop.	Shop.	Shop.
SOPHOMORE.	Monday	Draw and drill.	Draw and drill.	Draw and drill.	Draw and drill.	Draw and drill.	Draw and drill.
	Tuesday	Shop.	Shop.	Shop.	Shop.	Shop.	Shop.
	Wednesday	Draw and drill.	Draw and drill.	Draw and drill.	Draw and drill.	Draw and drill.	Draw and drill.
	Thursday	Shop.	Shop.	Shop.	Shop.	Shop.	Shop.
	Friday	Shop.	Shop.	Shop.	Shop.	Shop.	Shop.
	Saturday	Shop.	Shop.	Shop.	Shop.	Shop.	Shop.
	Saturday	Shop.	Shop.	Shop.	Shop.	Shop.	Shop.
JUNIOR.	Monday	Surveying.	Surveying.	Surveying.	Chem. lab.	Chem. lab.	Chem. lab.
	Tuesday	Draw and drill.	Draw and drill.	Draw and drill.	Draw and drill.	Draw and drill.	Draw and drill.
	Wednesday	Chem. lab.	Chem. lab.	Chem. lab.	Chem. lab.	Chem. lab.	Chem. lab.
	Thursday	Chem. lab. and drill.	Chem. lab. and drill.	Chem. lab. and drill.	Chem. lab. and drill.	Chem. lab. and drill.	Chem. lab. and drill.
	Friday	Chem. lab.	Chem. lab. 2 1/2 hours	Chem. lab.	Chem. lab.	Chem. lab.	Chem. lab.
	Saturday	Geological survey.	Geological survey.	Geological survey.	Chem. lab.	Chem. lab.	Chem. lab.
	Saturday	Geological survey.	Geological survey.	Geological survey.	Chem. lab.	Chem. lab.	Chem. lab.
SENIOR.	Monday	Shop.	Shop.	Shop.	Shop.	Shop.	Shop.
	Tuesday	Draw and drill.	Draw and drill.	Draw and drill.	Draw and drill.	Draw and drill.	Draw and drill.
	Wednesday	Surveying.	Surveying.	Surveying.	Shop.	Shop.	Shop.
	Thursday	Draw and drill.	Draw and drill.	Draw and drill.	Draw and drill.	Draw and drill.	Draw and drill.
	Friday	Shop.	Shop.	Shop.	Shop.	Shop.	Shop.
	Saturday	Shop.	Shop.	Shop.	Shop.	Shop.	Shop.
	Saturday	Shop.	Shop.	Shop.	Shop.	Shop.	Shop.

SCHEDULE OF PRACTICAL EXERCISES—AFTERNOON WORK— *Continued.*

CLASS.	DAY.	CLASSICAL COURSE.			NORMAL COURSE.		
		FIRST TERM.	SECOND TERM	THIRD TERM.	FIRST TERM.	SECOND TERM.	THIRD TERM.
A.	Monday	Farm or shop	Draw and drill	Farm or shop	Draw and drill	Farm or shop	Draw and drill.
	Tuesday	Draw and drill	Farm or shop	Draw and drill	Shop or farm	Draw and drill.	Farm or shop.
	Wednesday	Farm or shop	Draw and drill	Farm or shop	Draw and drill	Farm or shop	Draw and drill.
	Thursday	Draw and drill	Farm or shop	Draw and drill	Shop or farm	Draw and drill.	Farm or shop.
	Friday	Farm or shop		Farm or shop		Farm or shop	
	Saturday		Farm or shop		Shop or Farm		Farm or shop.
SUB-FRESH-MAN.	Monday	Draw and drill	Farm or shop	Draw and drill	Shop or farm	Draw and drill.	Farm or shop.
	Tuesday	Farm or shop	Draw and drill	Farm or shop	Draw and drill	Farm or shop	Draw and drill.
	Wednesday	Draw and drill	Farm or shop	Draw and drill	Farm or shop	Draw and drill.	Farm or shop
	Thursday	Farm or shop	Draw and drill	Farm or shop	Draw and drill	Farm or shop	Draw and drill.
	Friday		Farm or shop		Shop or farm		Farm or shop.
	Saturday	Farm or shop		Farm or shop		Farm or shop	
FRESHMAN.	Monday	Farm or shop	Farm or shop	Farm or shop	Farm or shop	Farm or shop	Farm or shop.
	Tuesday	Draw and drill	Draw and drill	Draw and drill	Draw and drill	Draw and drill	Draw and drill.
	Wednesday	Farm or shop	Farm or shop	Farm or shop	Farm or shop	Farm or shop	Farm or shop.
	Thursday	Draw and drill	Draw and drill	Draw and drill	Draw and drill	Draw and drill	Draw and drill.
	Friday						
	Saturday	Farm or shop	Farm or shop	Farm or shop	Farm or shop	Farm or shop	Farm or shop.
SOPHOMORE.	Monday	Draw and drill	Draw and drill	Draw and drill	Draw and drill	Draw and drill	Draw and drill.
	Tuesday	Farm or shop	Farm, shop or surveying	Farm, shop or surveying	Farm or shop	Farm, shop or surveying	Farm, shop or surveying.
	Wednesday	Draw and drill	Draw and drill	Draw and drill	Draw and drill	Draw and drill	Draw and drill.
	Thursday	Farm, shop or biological laboratory	Farm, shop or biological laboratory	Farm, shop or biological laboratory or surveying	Farm, shop or biological laboratory	Farm, shop or biological laboratory	Farm, shop or biological laboratory or surveying.
	Friday	Farm, shop or biological laboratory	Farm, shop or biological laboratory	Farm or shop	Farm, shop or biological laboratory	Farm, shop or biological laboratory	Farm or shop.
	Saturday						

SCHEDULE OF PRACTICAL EXERCISES—AFTERNOON WORK—*Continued.*

CLASS.	DAY.	CLASSICAL COURSE— <i>Continued.</i>		
		FIRST TERM.	SECOND TERM.	THIRD TERM.
JUNIOR.	Monday.....	Farm, shop or chemical laboratory.....	Farm, shop or chemical laboratory.....	Farm, shop or chemical laboratory.....
	Tuesday.....	Farm or shop and drill.....	Drill.....	Drill.....
	Wednesday.....	Farm, shop or chemical laboratory.....	Farm, shop or chemical laboratory.....	Farm, shop or chemical laboratory.....
	Thursday.....	Farm, shop or chemical laboratory and drill.....	Farm, shop or chemical laboratory and drill.....	Farm, shop or chemical laboratory and drill.....
	Friday.....	Farm, shop or chemical laboratory.....	Farm, shop or chemical laboratory.....	Farm or shop.....
	Saturday.....	.....	Geological survey.....	Geological survey.....
SENIOR.	Monday.....	Farm or shop and drill.....	Farm or shop and drill.....	Farm or shop and drill.....
	Tuesday.....	Farm or shop.....	Surveying.....	Surveying.....
	Wednesday.....	Farm or shop and drill.....	Farm or shop and drill.....	Farm or shop and drill.....
	Thursday.....	Farm or shop.....	Farm or shop.....	Farm or shop.....
	Friday.....	Farm or shop.....	Farm or shop.....	Farm or shop.....
	Saturday.....	.....	.....	.....

POST GRADUATE COURSES.

REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS (M. A.):

Applicants for this degree must have previously taken the Degree of B. A., and in addition must take, at the University, for a full scholastic year, four daily studies appointed by the Faculty.

REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE (M. S.):

Applicants for this degree must have previously taken the Degree of B. S., and in addition must take, at the University, for a full scholastic year, four daily studies appointed by the Faculty.

REQUIREMENTS FOR THE DEGREE OF M. E. OR C. E.

The Degree of M. E. or of C. E. will be given after three years to those graduates of the Mechanical or Civil Engineering courses, who by successful practice prove themselves worthy.

REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY (PH. D.):

1. This degree will be conferred for distinguished attainments, as shown by examination and thesis, in any one of the five following languages: Latin, Greek, German, French and English, together with subordinate attainments in two others of the five; or for distinguished attainments in one principal, and two subordinate, of the following sciences: Chemistry, Physics, Geology, Biology; or for distinguished attainments in Philosophy, or in Pure and Applied Mathematics.

2. This degree shall be open to persons who have received the Degree of B. A. or B. S. at this or other reputable institutions.

3. No applicant shall be admitted to examination for this degree before two full scholastic years from the date of his admission to the course shall have passed. The last of these two years must be passed by the candidate in resident study at the University.

4. Applicants for this degree must state in their application what particular line of study they wish to pursue.

5. A thesis showing original research shall be required of every applicant, the subject of which shall be announced and passed upon by a committee of the Faculty at least one year before the time set for the final examination, and the thesis itself must be presented to the committee two months before admission to the examination. Twenty-five copies of the approved and printed thesis shall be placed in the University library.

6. All applicants for this degree, who have previously taken the B. S. or M. S. Degree, must, by the end of the first year of the course, be sufficiently conversant with French and German to read with ease any scientific work written in these languages.

7. The fee for examination of applicants for the Degree of Ph. D. is \$35 ; for the M. A. or M. S. Degree, \$25 and for each Diploma, \$5.

DEPARTMENT OF
AGRICULTURE, CHEMISTRY AND MINERALOGY.

ALBERT E. MENKE, SUPERINTENDENT.
C. B. COLLINGWOOD, ADJUNCT PROFESSOR
W. F. BATES, FOREMAN OF FARM.

The Agricultural Department is designed and organized to give both theoretical and practical instruction in the various branches of agriculture. The farmers have realized that there is no art, profession or occupation which demands more careful study than agriculture; that special preparation is needed no less for the pursuit of agriculture than for law, medicine or divinity, and that proper provision should be made for teaching so important a subject in the State University. The question has been discussed from time to time, and its importance set forth, with more or less ability, till at length the Legislature has taken the first step towards carrying out the wishes and suggestions of the farming community. It is the policy of the present management to unite practice with theory, under the belief that in no other way beneficial results can be obtained. The equipments for practical work will compare favorably with those of any other successful agricultural college. The agricultural machinery on hand is of the newest and most approved pattern. In addition to the ordinary implements, we have a Victor manure spreader; rear-pressure shoe-drill; Aspinwall potato planter, with corn and fertilizer attachments; disc harrow, etc. The use of all this machinery is to give the student an insight into labor-saving devices, with a view to their economic employment. We have two commodious barns that will

accommodate forty-one head of stock, machinery, feed, etc. There has also been recently constructed a fine dairy and ice-house, built in accordance with tested plans. On the farm the student can become acquainted with the telling points of good stock, as he can see specimens of pure Devons, Holsteins, Sussex, Jerseys, Herefords, Galloways, grade Durhams, etc. We have a large vineyard and orchard for practical horticultural work. The students are interested in and do all the practical work that occurs on either a stock, dairy, fruit or cropped farm. The purely agricultural classes in the course are Agriculture, Horticulture, Stock Breeding, Stock Feeding, Agricultural Chemistry, Veterinary Anatomy, Veterinary Science, Dairying. The various closely-related branches are also provided for, as may be seen in the schedule. The following is a more detailed description of the instruction given in the different classes.

AGRICULTURE.

Reclamation of Land.—Clearing, stumping, stoning, fallowing.

Selection of farms for special purposes.

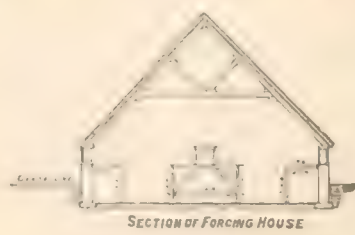
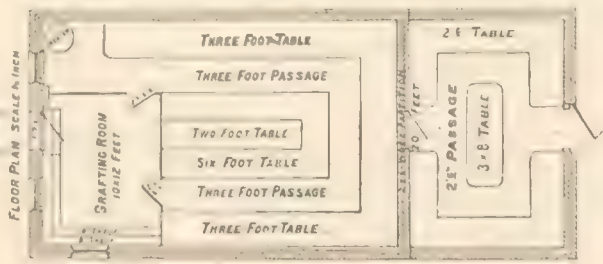
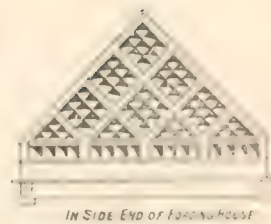
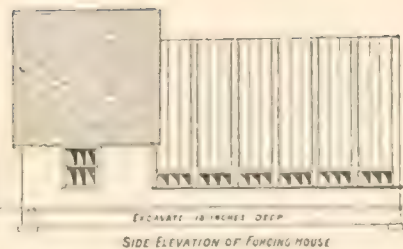
Rotation in Cropping.—Importance and necessity of rotation, principles underlying it, rotations suitable to different kinds of soil, examination and criticism of different systems of rotation.

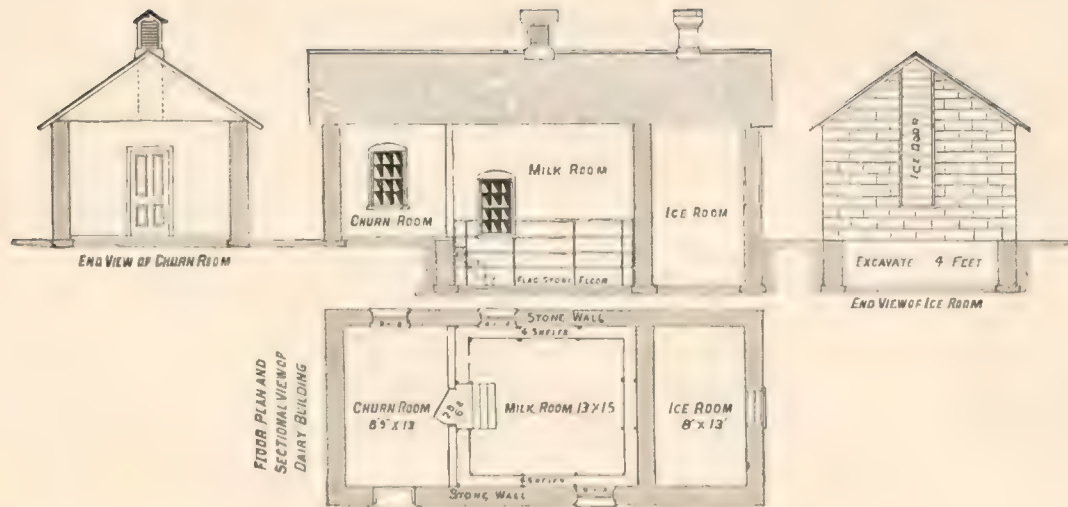
Buildings.—Location of houses, barns and stables; stables for horses, sheep and cattle.

Implements and Machinery.—Principles in construction of implements and machinery, points to be aimed at, classification, examination and description of same.

Preparation of Soil.—Modes of preparation for different crops, modes suited to various kinds of soil.

Preparation of Manures and Composts.—Home-made fertilizers.





Improvement of Lands.—Ordinary cultivation, subsoiling, fallowing, draining, manuring.

Roots.—Cultivation of roots and tubers.

Green Fodders.—Lucerne, clover, grasses, etc.

Miscellaneous.—Cultivation of various other crops management of pastures, etc.

HORTICULTURE.

Preparation of soils for horticultural and floricultural purposes. Management of plants, including methods of preparation. Horticultural implements. Methods of obtaining new varieties of vegetables, fruits and flowers. Arrangement and care of flower and kitchen gardens, nurseries and orchards. Practical green-house work by the student supplements the lectures.

STOCK BREEDING.

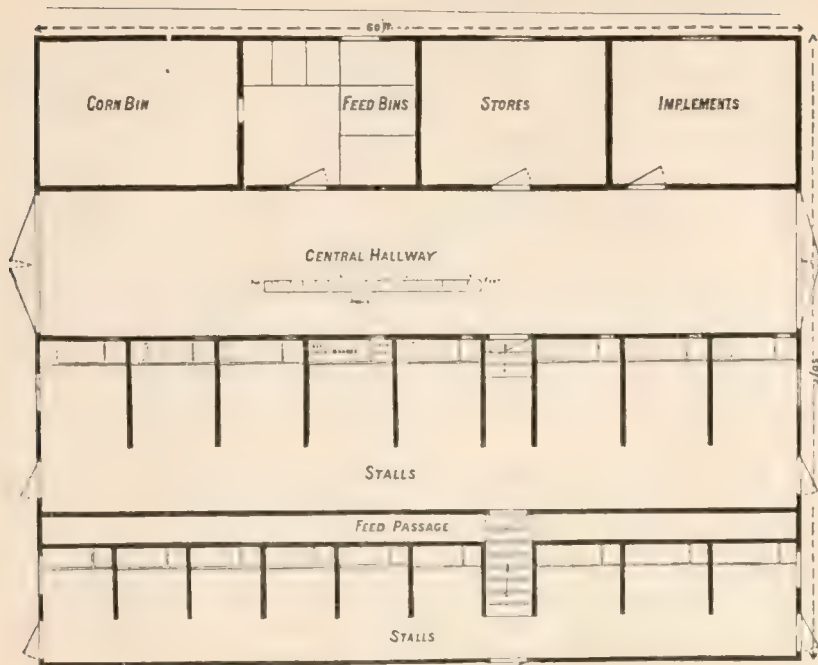
Breeding stock as an art; heredity of normal characters; heredity of diseases; heredity of acquired and abnormal characters; atavism; law of correlation; variation; fecundity; in-and-in breeding; cross-breeding; relative influence of parents; form of animals as an index of qualities, etc.

STOCK FEEDING.

Rations; nitrogenous foods; non-nitrogenous foods; principles of alimentation; effect of food on flavor of flesh; feeding young animals; money value of feeding stuffs; how to compound a ration economically; soiling; the economy of young beef; cost of beef; feeding steers; gain per day; the fat stock shows; summer feeding; feeding dairy cattle; feeding work stock; feeding horses, sheep, swine; effect of food on quantity of milk, etc.

VETERINARY ANATOMY.

A knowledge of the structure of the horse and other domesticated animals is acquired in this class. The instruction comprises lectures and demonstrations. The lectures include: First, a description of the locomotory apparatus, viz: the bones, articulations and muscles; second, a description of the viscera; third, a description of the relations of the blood vessels and nerves, and of the brain and organs of the senses.



PLAN of A. I. U. BARN
VETERINARY SCIENCE.

This course includes (to the extent useful to the practical agriculturist) the physiology of the various farm animals, their pathology or principal diseases—constitutional and local—and their treatment; the general principles to be followed in acute diseases in absence of professional assistance; the nursing and dieting of sick animals. The lectures are illustrated by diagrams, sketches and preparations, and also by any cases that may appear on the farm.

DAIRYING.

Agreeably to the prescribed order of studies, thorough instruction is given to the students both in the theory and practice of dairying, including the effects of food on milk products; the treatment of milk and cream; the manufacture of butter and cheese according to the principal system, with practical demonstrations of the uses of implements and machines.

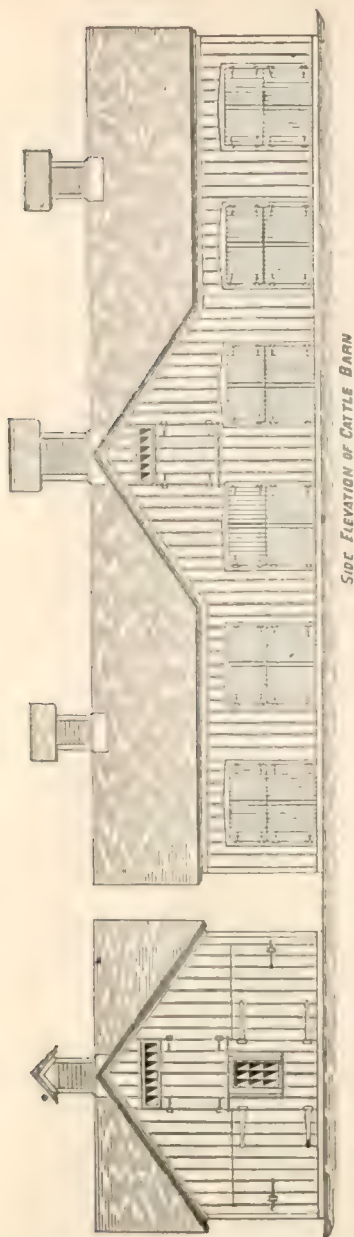
CHEMISTRY.

The Chemical laboratory consists of a commodious lecture room, provided with water-sinks, pneumatic troughs, tables for illustration, and cases for chemicals and apparatus; two analytical laboratories with work-tables, desks, shelves and drawers for forty students, water and gas supply, vacuum pumps, hoods, etc., and a balance-room containing two pairs of Becker's best chemical balances.

The course embraces inorganic, organic, analytical, agricultural and industrial chemistry. Instruction is given by means of text-books, lectures, class illustrations and laboratory practice. A general idea of the course may be gleaned from the following synopsis:

Agricultural Chemistry.—Soil, air and water in their relations to the plant. The food of plants; manures, general and special; chemical principles of tillage, irrigation, systems of rotation and of special crops and farms; the means of determining fodder, values, etc.

Industrial Chemistry.—Lectures on the manufacture of technical products.



Inorganic Chemistry.—This class is instructed in thorough sympathy with the views of Mendeljeff, Lothar Meyer and Thomsen on modern chemistry.

Organic Chemistry.—Constitution of organic compounds; hydrocarbons; alcohols; aldehydes, acids and their derivatives; constitution of oils and fats, sugars, starch, cellulose, albuminoids, essential oils, alkaloids, etc.

Practical Chemistry.—During the first term of the junior year the student becomes acquainted with the methods and literature of qualitative analysis. The practical work is taught by laboratory practice and lectures. The second and third terms of this year are devoted to quantitative chemical analysis, the instruction being given by similar methods. The laboratory work begins with the determination of metals in simple compounds, followed by analyses of ores, commercial fertilizers, milks, food products, etc. During the last term a short course in assaying is given.

MINERALOGY.

The Mineralogical laboratory is provided with work-tables, blow-pipes and lamps for twenty students, and other facilities for the determination of minerals. This laboratory also contains combustion, crucible, muffle and roasting furnaces for both coal and gas, water supply, hoods, vacuum pumps, ore-crusher, grinder and samplers, and is provided with Bunsen burners.

The study of Mineralogy includes the study of crystallography with the occurrence, properties, forms and uses of the principal minerals. Determinative mineralogy forms the most important part of the course, and is studied practically with the aid of lens, magnet, blow-pipe and simple analysis. Especial attention is given to the determination of the minerals and the assaying of the ores of the State.

AGRICULTURAL JOURNALS.

We believe that the mind is strengthened by the intelligent perusal of good papers, and also that the farmer who reads the best agricultural papers will be able to intelligently realize the experience of others. We keep the following list of papers on file for the benefit of agricultural students in particular :

Rural and Workman, Little Rock, Ark.
 Arkansas Stockman, Little Rock, Ark.
 Breeder's Gazette, Chicago, Ill.
 Farmer's Review, Chicago, Ill.
 American Farmer, Baltimore, Md.
 Southern Cultivator, Atlanta, Ga.
 Prairie Farmer, Chicago, Ill.
 Texas Stockman, San Antonio, Texas.
 Breeder's Journal, Beecher, Ill.
 Grange Bulletin, Cincinnati, O.
 Rural World, St. Louis, Mo.
 Journal of Agriculture, St. Louis, Mo.
 Industrialist, Manhattan, Kan.
 Country Gentleman, Albany, N. Y.
 Canadian Entomologist, Toronto, Ont.
 Kentucky Stock Farm, Lexington, Ky.
 Live Stock Journal, London, England.
 Chemical Society's Journal, London, England.
 Royal Agricultural Society's Journal, London, England.
 Home and Farm, Springfield, Mass.
 Western Resources, Omaha, Neb.

The majority of the above journals are donated by their respective publishers, to whom we are very thankful.

TABLE SHOWING DISTRIBUTION OF TIME IN SHORT AGRICULTURAL COURSE.

SUBJECT.	CLASS.				Total Hours.
	A.	SUB-FRESHMAN.	FRESH-MAN.	SOPHOMORE.	
English, History, etc.....	390	195	180	180	845
Mathematics.....	130	130	130	130	520
General Science.....	195	195	195	195	780
Agricultural Sciences.....	195	195	195	195	780
Drawing.....	260	260	260	260	1040
Farm Work.....	130	130	130	130	520
Laboratory Work.....	130	130	130	130	520
Shop Work.....	520	520	520	520	2080
Theoretical Work.....	585	585	585	585	2340
Practical Work.....	1105	1105	1105	1105	4420

TABLE SHOWING DISTRIBUTION OF TIME IN B. S. A. COURSE.

SUBJECT.	CLASS.						Total Hours
	A.	SUB- FRESH- MAN.	FRESH- MAN.	SOPHO- MORE.	JUNIOR.	SENIOR.	
English, History, etc.....	300	195	130	130	.....	431	888 1/2
Mathematics.....	130	130	130	86 2/3	.....	.....	476 2/3
General Science.....	.....	195	216 2/3	260	86 2/3	.....	974
Agricultural Sciences.....	.....	.....	431	86 2/3	260	380	780
Drawing.....	195	195	195	195	.....	.....	780
Surveying.....	.....	.....	.....	.....	86 2/3	86 2/3	173
Farm Work.....	260	260	173 1/3	130	303 1/3	303 1/3	1430
Laboratory Work.....	.....	.....	86 2/3	130	195	195	506 2/3
Shop Work.....	130	130	130	130	.....	.....	520
Theoretical Work.....	520	520	520	520	520	520	3120
Practical Work.....	585	585	585	585	585	585	3510
Total Work.....	1105	1105	1105	1105	1105	1105	6630

TEXT AND REFERENCE BOOKS.

Soph. Inorganic Chemistry.—Richter, Wurtz, Muir, Miller, Roscoe, and Schorlemmer.

Organic Chemistry.—Remsen, Richter, Beilstein, Roscoe and Schorlemmer.

Analytical Chemistry.—Jones, Fresenius, Caldwell and Babcock.

Mineralogy.—Brush, Dana.

Agriculture.—Warrington, Gulley, Allen, Storer, Tanner.

Horticulture.—Downing, Bailey, etc.

Veterinary Anatomy.—Strangeway, Cheveau.

Veterinary Science.—Williams, McFadden.

Stock Breeding.—Miles.

Stock Feeding.—Stewart, Armsby.

Dairy Husbandry.—Stewart, etc.

DEPARTMENT OF
MECHANIC ARTS AND ENGINEERING.

J. M. WHITHAM, PROFESSOR.

W. E. ANDERSON, ADJUNCT PROFESSOR.

G. P. EUSTACE, INSTRUCTOR IN METAL WORK.

A. C. HOAG, INSTRUCTOR IN WOOD WORK.

R. F. BEARDSLEY, INSTRUCTOR IN FORGE AND FOUNDRY.

A. G. TAFF, INSTRUCTOR IN FIELD ENGINEERING.

Courses of instruction are offered in

1. Manual Training.
2. Mechanical Engineering.
3. Civil Engineering.

I.--COURSE IN MANUAL TRAINING.

The course in Manual Training, covering four years, is intended to prepare young men to obtain employment in the machine shop, forge and foundry, and at the wood-worker's bench. It replaces the old apprenticeship system, and, at the same time, gives the youth instruction in English, mathematics, science, drawing, the principles of mechanism and steam engineering. The recent growth of Manual Training Schools, not only here, but in Europe, is phenomenal. The apprenticeship system is now practically obsolete; hence the need of Manual Training Schools. The only opportunity offered to the youth of the State to obtain this instruction is given here.

Theoretical instruction given in the morning is indicated on page 35. That of the afternoon consists of practice for five hours a week in drawing, and ten hours in the training shops.

TABLE SHOWING THE DISTRIBUTION OF TIME IN HOURS IN THE
MANUAL TRAINING COURSE.

SUBJECTS.	CLASS.				Total Hours.
	A.	SUB-FRESHMAN.	FRESHMAN.	SOPHOMORE.	
English History, etc.....	390	247	180	86 $\frac{2}{3}$	853 $\frac{2}{3}$
Science .....	.....	143	130	86 $\frac{2}{3}$	359 $\frac{2}{3}$
Pure Mathematics	130	130	130	130	520
Applied Mathematics.....	.....	.....	130	216 $\frac{2}{3}$	346 $\frac{2}{3}$
Shop Work.....	390	390	390	346 $\frac{2}{3}$	1516 $\frac{2}{3}$
Free-Hand Drawing.....	195	195	.....	.....	390
Mechanical Drawing.....	.....	.....	195	195	390
Laboratory Work.....	.....	.....	.....	43 $\frac{1}{8}$	43 $\frac{1}{8}$
Total Theoretical Work	520	520	520	520	2080
Total Practical Work.....	585	585	585	585	2340
Total Work.....	1105	1105	1105	1105	4420

The subjects taught in the Training Shops are—1, carpentry and joinery; 2, wood turning; 3, cabinet making and practical carpentry; 4, pattern making; 5, foundry work; 6, forging; 7, metal fitting; 8, machine tool work; 9, care of steam machinery. The distribution of these subjects throughout the four years is shown in the following:

SCHEME SHOWING COURSE OF SYSTEMATIC INSTRUCTION IN
WORK-SHOPS.

CLASS.	SECTION	FIRST TERM.	SECOND TERM.	THIRD TERM.
A	A	Principles of Carpentry and Joinery.	Wood Turning, $\frac{1}{2}$ term. Practical Cabinet and Carpentry Work.	Practical Cabinet and Carpentry Work.
	B	Wood Turning, $\frac{1}{2}$ term. Principles of Carpentry and Joinery, $\frac{1}{2}$ term.	Principles of Carpentry and Joinery, $\frac{1}{2}$ term. Practical Cabinet and Carpentry Work.	Practical Cabinet and Carpentry Work.
	C	Principles of Carpentry and Joinery, $\frac{1}{2}$ term. Wood Turning.	Principles of Carpentry and Joinery, $\frac{1}{2}$ term. Practical Cabinet and Carpentry Work.	Practical Cabinet and Carpentry Work.
SUB-FRESHMAN	A	Forging.	Forging, $\frac{1}{2}$ term. Foundry Work $\frac{1}{2}$ term.	Foundry Work.
	B	Foundry Work.	Foundry Work, $\frac{1}{2}$ term. Forging, $\frac{1}{2}$ term.	Forging.
FRESHMAN	A	Foundry Work.	Pattern Making.	Metal Fitting.
	B	Metal Fitting.	Foundry Work.	Pattern Making.
	C	Pattern Making.	Metal Fitting.	Foundry Work.
† SOPHOMORE.		Machine Tool Work—engine lathe, planers, drilling machine, milling machine, etc.	Machine Tool Work—engine lathe, planers, drilling machine, milling machine, etc.	Machine Tool Work—engine lathe, planers, drilling machine, milling machine, etc.

† One student from this class is with engine and boiler.

Junior and senior students have an advanced course in the various shops.

EQUIPMENTS OF THE MANUAL TRAINING SHOPS.

The Training Shops are located in a new building, and are conveniently arranged and well equipped. There are four principal shops, viz: The Wood-working, Foundry and Moulding, the Forging, and the Machine Shops; also, there are other rooms auxiliary to these, as the Engine and Boiler-Rooms, the Tool-Room, Cloak-Room, Finishing-Room, and Supply Rooms. In equipping these shops, those institutions of a similar nature were studied, compared and improved upon as much as circumstances would permit.

The Wood-Working Shop is equipped with eighteen well appointed work benches with tools, seven turning lathes, one double circular saw, one scroll saw, one band saw, one reversible shaping machine, one planing machine, and one steam glue heater.

The Equipments of the Forging Shop at present consist of nine forges of the most improved design, nine anvils, and nine sets of tools, consisting of hand-hammer, tongs, calipers, steel rule, steel square, hot and cold cutters, file, flatter, fullers, swadges, punches, heading tools, etc. The forges are supplied with power blast, a No. 6 Buffalo blower serving for this purpose. This shop has, also, a double emery grinder.

The Moulding-Room and Foundry are equipped with a Collan cupola which will melt from 200 pounds to one ton of iron at once, one brass furnace, nine sand troughs and moulders, benches combined, nine sets of moulders, tools, consisting of heart and square trowel, slickers, rammers, riddle, flask, swab, water pot, shovel, lifters, drawer, spikes, etc., six ladles from 100 to 5 pounds capacity, an assortment of flasks, and other necessities for a complete foundry.

The Equipments of the Machine Shop are thirteen work-benches with vises, sets of tools and closets, one twelve-

inch engine lathe, three fourteen-inch engine lathes, one nineteen-inch engine lathe, one speed lathe, one planer 24x24x72 inches, one planer 10x10x24 inches, one Universal milling machine (B. & S.), one double-wheel emery grinding machine, one drill press, one grinding stone, and chucks and other appliances for use on the lathes, planers, etc. Each machine has its distinct set of tools. This shop is well equipped with hammers, steel rules, steel squares, spring dividers, chisels, twist drills, taps, dies, tap wrenches, die stocks, reamers, pipe dies, files of all sizes and shapes, wrenches, arbors, lathe-dogs, squares, scales, calipers (inside and outside), machine and hand-cutting tools, a surface gauge, a Victor micrometer caliper, a protractor, and many other tools. The machinery is driven by a 25 horse-power Westinghouse engine.

CAPACITY OF THE SHOPS.

Fifty students can be accommodated in the shops at one time, divided among the rooms as follows:

Wood-working Room.....	24
Metal-working Room.....	18
Forging-Room.....	9
Foundry	9
Tool Room	1
Engine and Boiler-Room.....	1

The Boiler-Room contains two horizontal fire tubular boilers set in brick work, aggregating 65 horse-power. These are used for heating the main building and running the shops. This room also contains a pressure-reducing valve, an automatic heater-trap and governor, Blake pump, gauges and other necessary appliances.

II.—COURSE IN MECHANICAL ENGINEERING.

Mechanical Engineering may be defined as being the application of mathematics to science, with particular reference to the *design and fabrication* of all forms of

machinery. Since engineering is the combined science and art of utilizing the forces and materials of nature, and since this utilization is accomplished in nearly all cases by machines, or by processes working through machines, it is evident that *mechanical engineering is the basis of all art and industry.*

The course of study is published on page 37. It is based on the belief that a mechanical engineer should be a mathematician, a scientist, a draughtsman and a mechanic. The course extends over six years, and consists of 3,120 hours devoted to theoretical, and 3,510 hours to practical instruction. The distribution of time among the several branches, both theoretical and practical, is shown in the following:

TABLE SHOWING DISTRIBUTION OF TIME IN HOURS IN THE
MECHANICAL ENGINEERING COURSE.

SUBJECTS.	CLASS.						Total Hours.
	A.	SUB-FRESH-MAN.	FRESH-MAN.	SOPHOMORE.	JUNIOR.	SENIOR.	
English History, etc.....	390	247	130	86 $\frac{2}{3}$	.....	.....	853 $\frac{2}{3}$
Science.....	143	130	130	173 $\frac{1}{2}$	130	86 $\frac{2}{3}$	663
Pure Mathematics.....	130	130	130	130	130	.....	650
Engineering Studies.....	.....	.....	130	130	260	433 $\frac{1}{3}$	953 $\frac{1}{3}$
Shop Work.....	390	390	390	303 $\frac{1}{2}$	43 $\frac{1}{2}$	390	1906 $\frac{2}{3}$
Drawing.....	195	195	195	195	97 $\frac{1}{2}$	195	1072 $\frac{1}{2}$
Surveying, Practice.....	.....	.....	.....	86 $\frac{2}{3}$	.....	.....	86 $\frac{2}{3}$
Laboratory Work.....	.....	.....	.....	.....	444 $\frac{2}{3}$	.....	444 $\frac{2}{3}$
Theoretical Work.....	520	520	520	520	520	520	3120
Practical Work.....	585	585	585	585	585	585	3510
Total Work.....	1105	1105	1105	1105	1105	1105	6630

In addition to the above, students may take French and German as elective studies.

The courses in Mechanical and Civil Engineering differ only in the work of the Junior and Senior years. Even during these years many subjects are included in both. The branches studied are named on page 39, and described on page 66.

III.—COURSE IN CIVIL ENGINEERING.

Civil Engineering, as here understood, embraces the location and construction of railroads, canals, water-works, sewerage systems, foundations on land and in water, tunnels and superstructures; the surveys, improvements and defenses of coasts, harbors, rivers and lakes; the application of mechanics, descriptive geometry and graphics to the design and construction of arch bridges, roofs, trusses and suspension bridges; the design and fabrication of wind, hydraulic and electric motors, and air and heat engines; irrigation and drainage of lands; and the preparation of forms of specifications and contracts.

The course of study, published on page 39, is believed to compare favorably with that in many of the the older institutions of technology. It is decidedly a *practical* course, and the graduate is well equipped for the duties of an engineer. He is, also, an excellent draughtsman and mechanic. The time in *hours* devoted to theoretical and practical instruction is shown in the following :

TABLE SHOWING DISTRIBUTION OF TIME IN HOURS DEVOTED TO STUDIES IN THE CIVIL ENGINEERING COURSE.

SUBJECTS.	CLASS.						Total Hours.
	A.	SUB-FRESH-MAN.	FRESH-MAN.	SOPHOMORE.	JUNIOR.	SENIOR.	
English History, etc.....	390	247	180	86 $\frac{2}{3}$	.....	.....	853 $\frac{2}{3}$
Science .....	.....	143	130	173 $\frac{1}{2}$	216 $\frac{2}{3}$	86 $\frac{2}{3}$	499 $\frac{2}{3}$
Pure Mathematics	130	130	130	130	130	.....	550
Engineering Studies.....	.....	.....	130	130	173 $\frac{1}{2}$	433 $\frac{1}{2}$	866 $\frac{2}{3}$
Shop Work .....	.....	.....	.....	.....	.....	.....	.....
Drawing	195	195	195	195	65	195	1040
Surveying, Practice.....	.....	.....	.....	130	216 $\frac{2}{3}$	130	476 $\frac{2}{3}$
Laboratory Work .....	.....	.....	.....	.....	303 $\frac{1}{2}$	.....	303 $\frac{1}{2}$
Total Theoretical Work	520	520	520	520	520	520	3120
Total Practical Work.....	585	585	585	585	585	585	3510
Total Work.....	1105	1105	1105	1105	1105	1105	6630

In addition to the above, students may take French and German as elective studies.

ENGINEERING STUDIES FOR THE MECHANICAL AND CIVIL ENGINEERING COURSES.

SURVEYING, as a study, covers two terms. It embraces the care, use and adjustment of instruments, and the elements of land, topographical, hydrographic, mining, city, and geodetic surveying. *Text-book*—Johnson or Gillespie. The course of surveying practice in the field covers three years, aggregating 470 hours. It is divided as follows:

Sophomore Year.—Use of chain, tape, compass, transit, solar attachment, level, sextant and plane table. The students have exercises in land, city, topographical, mining and hydrographic surveying.

Junior Year.—Road engineering consisting of reconnaissance, preliminary survey, location, profiling, establishing grade, location of curves and turnouts, cross-section leveling, locating slope stakes, measuring embankments and cuts, estimates of volume and materials used in construction, improvement of highways, location and estimates for tunnels.

A term is also devoted to the study of geodesy, embracing location of base-line, repeated measurements of base by various methods, location and establishment of signals, manufacture and location of station marks, measuring, distributing errors and correcting angles, tertiary triangulation of the neighborhood, geodetic and precise spirit leveling.

Senior Year consists of: 1. Sanitary survey of Fayetteville, embracing estimates of material required and cost of construction of a complete sewerage system. 2. Hydraulic surveying, consisting of location of water-works for the city of Fayetteville, embracing complete details, estimates and costs.

ROAD ENGINEERING consists of a term devoted to the description of the various forms and methods of constructing roads, streets and pavements, followed by two

terms' study of railroad location and maintenance. The *text-books* used are Gilmore, Johnson (for earthwork and topography), Searles (for curves and turnouts), Parson (for maintenance of way). The text-books are supplemented by lectures, notes and exercises.

SANITARY ENGINEERING consists of a term devoted to the study of the separate and combined systems of sewerage and constructive details. This is followed by the designing of a sewerage system for Fayetteville, as already stated. *Text-books*—Latham, Staley and Pier-son.

HYDRAULIC ENGINEERING is studied with special refer-ence to the design and location of water-works. It comes at the last of the course, in order that stand-pipes, retaining walls, dams, etc., may be properly designed. The study is illustrated by the design of water-works for Fayetteville. *Text book*—Fanning, and Lectures.

ARCHES AND DAMS are made a special study for one term. Greene's work on Arches (graphical) is used, while it is supplemented by the study of existing structures. No text-book is used in the study of dams, but the literature found in the numerous engineering period-icals, and existing structures, form the basis for the class instruction.

BRIDGE ENGINEERING covers two terms and is taught analytically and graphically. Numerous exercises are required illustrating nearly ever form of bridge used for highways or railroads. *Text-books*—Burr, Waddell, Merriman.

The constructive details are studied from blue prints, etc., kindly supplied by various bridge-building establishments.

STUDY OF ENGINEERING WORKS:—One term is devoted to the special study of recent engineering structures, prom-inence being given to the various forms of foundations and tunnels. It also embraces the study of the actual

use of coffer-dams, caissons, jetties, irrigation canals, etc. *Text-book*—Engineering Periodicals.

SPECIFICATIONS AND CONTRACTS:—The forms used in writing specifications and the law of contracts are studied in detail from lectures.

STEAM ENGINEERING is taught from a descriptive standpoint to the civil engineering students. *Text-book*—Holmes.

For mechanical engineering students it embraces two terms of descriptive study. *Text-books*—Holmes, Wilson (boilers): one term on thermodynamics, *text-book*—Rankine (the subject of heat having been previously made a special study); one term to boiler design, taught by lectures; one term to steam engine design. *Text-book*—Whitham, and one term the study of valve gears (lectures).

TESTS OF STEAM MACHINERY:—This is taught without a text-book, and consists in the study of the report of tests made by engineers, and the actual testing of machinery used in the shops and elsewhere.

MECHANISM:—One term is devoted to the elementary principles. *Text-books*—Wood and Stahl, and two terms to the study of machinery and mill-work. *Text-book*—Rankine.

One term is devoted to the study of machine design (Klein).

MECHANICS:—One term is devoted to the elements (*Text-book*, ——— supplemented by teacher's notes), and two terms to applied mechanics. Mechanics is taught from a purely calculus standpoint.

METHOD OF LEAST SQUARES is studied for one term. (Merriman.)

ELECTRICAL ENGINEERING:—See description on page 71, under the heading Department of Physics. *Text-books*—Kemp, Day.

DRAWING:—Instrumental drawing is required during four years for all male students in the college department, irrespective of course of study.

Engineering students devote a term to the study of **Descriptive Geometry** (Angel).

The following college course is for engineering students, and is somewhat modified for students in other departments, as is shown to be necessary:

Freshman Year.—Instruction in use of instruments, practice in reading, drawings, construction of geometrical figures, elements of mechanical drawing. Great prominence is given to the study of descriptive geometry.

Sophomore Year.—Mechanical drawing during the first term, and topographical drawing during the second and third terms.

Junior Year.—Architectural drawing, linear and isometrical projections.

Senior Year.—Each student makes a design and general and detailed drawing of some structure, such as a bridge or steam engine.

The Draughting-Room is equipped with tables, stools, planimeter, pantograph and blue-print frame. Materials are kept on hand and supplied to students at catalogue rates. Drawing instruments are purchased at 20 per cent discount.

ENGINEERING PERIODICALS.

The following engineering periodicals, nearly all of which are donated to the department, are taken for the use of the students, viz.:

1. London Engineering.
2. Engineering News.
3. The Sanitary Engineer.
4. Scientific American Supplement.
5. Scientific American.
6. Scientific American Architects' and Builders' Edition.
7. American Machinist.
8. The American Engineer.
9. The Stationary Engineer.
10. Mechanics.

11. Master Steam Fitter.
12. The Western Electrician.
13. The National Contractor.
14. Fire and Water.
15. The Cincinnati Artizan.
16. Carpentry and Building.
17. Boston Journal of Commerce.
17. The Marine Journal.
19. The Tradesman.
20. The Locomotive.
21. Proceedings of the Institution of Civil Engineers (England).
22. Proceedings of American Society of Civil Engineers.
23. Proceedings of American Society of Mechanical Engineers.
24. Proceedings of American Institute of Mining Engineers.
25. Journal of the Association of Engineering Societies.
26. Journal of the New England Waterworks Association.
27. Proceedings of the American Waterworks Association.
28. Proceedings of the Master Car Builders' Association.
29. National Car and Locomotive Builder.
30. Proceedings of Philadelphia Engineers' Club.
31. Proceedings of American Railway Master Mechanics' Association.
32. Proceedings of Roadmasters' Association of America.
33. Proceedings of Engineering Societies in Canada, Michigan, Ohio, Indiana, Illinois, Iowa, Missouri, Arkansas, etc.
34. Power-Steam.
35. Practical Mechanic.

PHYSICS.

J. M. WHITHAM, PROFESSOR.

W. E. ANDERSON, ADJUNCT PROFESSOR.

This course embraces recitations upon text-books, lectures, class illustrations and experiments in the physical laboratory. The general course extends throughout the Freshman year, and consists of the study of the branches known as mechanical powers—heat, light, sound, electricity and magnetism.

Heat is studied during one term of the Sophomore year as being essential to the engineering course, while in the Senior year electrical engineering is taught.

Text and Reference Books.—Ganot's *Physics*, Worthington's *Physical Laboratory Practice*, Meyer's *Experiments in Light and Sound*, Pickering's *Physical Measurements*, Ohmstead's *Natural Philosophy*, Tyndall on *Light, Sound and Heat*, *Stuart's Heat*, Stewart's *Heat*, Sylvanus Thompson's *Electricity*, Day's *Electric Light Arithmetic*, Day's *Exercises in Electrical Measurements*, Murdock's *Notes on Electricity and Magnetism*, *Kempe's Hand-Book of Electrical Testing*, Hopkins.

DEPARTMENT OF
PSYCHOLOGY, ETHICS AND POLITICAL ECONOMY.

E. H. MURFEE, PRESIDENT.

J. F. HOWELL, ASSISTANT.

PSYCHOLOGY AND ETHICS.

These important studies are taught inductively, no theory or doctrine being urged for acceptance which is not based upon a philosophical induction from the facts of consciousness. The student is taught to subject every statement of fact or principle to the test of his own experience. The fullest and freest discussion of opposing views is encouraged.

POLITICAL ECONOMY.

The aim is to give a succinct statement of the undisputed principles of political economy, and to discuss conflicting views with all possible fairness.

CIVIL GOVERNMENT.

In a free country like ours, it is highly important that young men especially be taught the principles of Republican government, both State and National. The aims in teaching this branch of political science are:

(1) To give an outline of the history of our political rights and their bearing on national growth and progress.

(2) To have the students analyze carefully the Constitution of the United States and of Arkansas, and learn the nature of official duties in all the branches of government.

(3) To exhibit the forms and character of the important State papers that have been promulgated in our history.

TEXT AND REFERENCE BOOKS.

Psychology.—McCosh, Bascom, Mahan, Porter, Sir William Hamilton.

Ethics.—Dagg, Alexander, Bascom, Porter, Calderwood.

Political Economy.—Chapin, Mill, Say, Perry.

Civil Government.—Thorpe's and Cocker's Civil Government, Townsend's Analysis, and Anderson's Manual of the Constitution.

DEPARTMENT OF

MATHEMATICS, LOGIC AND ASTRONOMY.

O. C. GRAY, PROFESSOR.

MATHEMATICS.

This subject should be taught both practically and logically, thus promoting scientific investigation and mental discipline. It is not enough to find "answers," but the deductions must be based on established principles. First, the pupil performs the work in imitation of the teacher or author; then comparing facts learned, he reasons on the subject, consults the text and book of reference, makes the deduction, and applies the law to new cases. The power of original investigation and the faculty of invention are thus strengthened, and the student, by the inductive process of combining known principles and making new deductions, can anticipate the author in his demonstrations.

For admission into the Freshman class, the applicant must pass satisfactory examination in Arithmetic and in Algebra to Quadratic Equations.

It is desirable that all students should supply themselves with drawing instruments; for much attention is paid to original investigations, in which at least the dividers and protractor are essential.

TEXT-BOOKS AND BOOKS OF REFERENCE.

Algebra.—Robinson's University, Wentworth's Complete, Wells' University.

Geometry.—Wentworth, Loomis, Welch and Chauvenet.

Trigonometry.—Schuyler, Wells and Wentworth.

Analytical Geometry.—Loomis and Todhunter.

Calculus.—Loomis, Church, Byerly and Williamson.

ASTRONOMY.

A term is devoted principally to Descriptive Astronomy, together with as much Practical as possible in so short a period.

The subject is made interesting and profitable by the use of maps, globe, astral lantern, equatorial telescope, sextant and solar compass.

Text and Reference Books.—Olmstead's College Astronomy, Bowen's Astronomy of Observation, Newcomb and Holden's Astronomy, Coffin's Navigation and Nautical Astronomy, the Nautical Almanac, Loomis' Astronomy. Periodical—Siderial Messenger.

LOGIC.

Logic is taught both from text-books and by lectures. Students are required to show its application in various scientific investigations. Essays from different authors are analyzed and discussed, with a view to the appreciation of sound reasoning and the detection of fallacies. Original discourses are required of students to impress the principles taught. In this way a subject, ordinarily regarded as dry, is made of the liveliest interest.

Text-books and Books of Reference.—Jevon-Hill, McCosh, Mill and Hamilton.

DEPARTMENT OF

HISTORY, ENGLISH, FRENCH AND GERMAN

HOWARD EDWARDS, PROFESSOR.

ENGLISH.

The work of the English course is assigned to the Freshman, Junior and Senior Classes.

For entrance into the Freshman Class a full knowledge of Elementary Grammar, Composition and Analysis, is required, and the student is expected to be able to express himself with a fair degree of ease and clearness.

The work of the Freshman year is obligatory in all courses of study. It will consist of two terms on Rhetoric and one term on Historical Grammar. Every effort will be made to render the course rich in practical results. To this end continuous graded exercises, or essays, promptly applying and drilling in the principles learned in the text-book, constitute a prominent feature thereof.

The Junior year of the course is obligatory only on the students of the B. A. course. It consists of two terms devoted to the study of the History of English Literature, together with original work on as many of the masterpieces of the language as the varying time will allow, and one term employed in the detailed consideration of Chaucer and Shakespeare.

The Senior year is philological in its bent. It will consist of one term on Anglo-Saxon, one term on Middle English, and one term on English Philology as such. The written exercises in the Junior and Senior years will consist of original investigation of questions connected with and forming a vital part of the class work. In this kind of work, the Library, containing as it does, the masterpieces of our

language from the earliest times down, is of invaluable assistance, and forms the main and most valued auxiliary of instruction. Students are referred, as far as possible, to the original sources, and taught to investigate for themselves.

Text books.—Clarke's Practical Rhetoric, Morris' Historical English Grammar, Stopford Brooke's Primer of English Literature, Ward's English Poets, Sweet's Anglo-Saxon Reader, Morris' Specimens of Early English, Skeat's Principles of English Etymology.

HISTORY.

The work in History is done entirely in the Sophomore year. One term is devoted to each of the usual divisions of Universal History. While, by the use of a text-book, and a rapid course of lectures, the general flow of events throughout the world is followed, there is, besides, assigned to each student a specific period and region, which during the year's time he is required to work up thoroughly from original sources, as far as the material at hand will allow. The work of the student in the province assigned him is, at stated intervals, presented to the class in the form of an essay. Here again the Library, which is comparatively rich in historical works, is an invaluable auxiliary to the work of the course. The department is also provided with a number of accurate and beautiful maps.

The year's work in History is required in all courses except the Manual Training.

Text-book.—Fisher's Universal History.

GERMAN AND FRENCH.

In consequence of the legislative enactment which requires for any course containing a language other than English, the payment of the yearly tuition fee of \$10, the German and French languages have not been made obligatory in any of the courses; yet they are regarded by both the Board and the Faculty as essential parts of any Scientific

course, and opportunity is given the students of all courses to take them. Two years are assigned to each language. No entrance requirement is made. French is commenced in the Freshman year, and the work of the class is directed to the obtaining of a thorough familiarity with the forms of the language, and a large and practical vocabulary. At the end of the Freshman year the student is expected to be able to read ordinary prose at sight; and has all the material necessary to enable him, with facility and quickness, to learn to speak the language, if he so desire.

The Sophomore Class is engaged in reading and studying the classics of the language: the history of the language, the study of the syntax and idioms, and a hurried view of the historical grammar, complete the course.

German is begun in the Junior year, and the plan pursued is the same as that of the Freshman year in French. The Seniors complete the study of German, following the line of study pursued in French by the Sophomores. Daily practice in translating into French and German, and writing from dictation, form a prominent feature of class-work.

Text-books.—Whitney's French Grammar, Lectures on French Literature, Selections from Modern French Literature, Historical Grammar (Brachet), Harrison's Syntax, Selections from French Classics, German Grammar (Joynes-Meissner), Lectures on German Literature, Grimms' Maerchen, Brandt's German Grammar, Selections from the German Classics.

N. B.—French and German weeklies are taken by the Library and are accessible to students. The current literature in English is also well represented. All three are made useful auxiliaries in the department.

DEPARTMENT OF BIOLOGY AND GEOLOGY.

PROFESSOR SIMONDS.

BIOLOGY.

The course of instruction in the Biological Sciences includes Elementary Botany, Plant Analysis, Structural and Microscopic Botany, Elementary Physiology, Human Anatomy and Physiology, Elementary Zoology, General Zoology, Entomology and Special Research.

TEXT-BOOKS.

In Botany.—Gray's Series, Bessey's Botany.

In Zoology.—Holder's Zoology (Elementary), Packard's Zoology (Advanced), Nicholson's Zoology (Advanced).

GEOLOGY.

The course of instruction in Geology includes Dynamical, Structural and Historical Geology, Survey Methods and Economic or Applied Geology. Field work is required of all students taking the General Course. The region adjacent to Fayetteville will be carefully studied and mapped, and that knowledge acquired which can only be attained by a personal and minute study of strata.

Text-book.—LeConte's Elements of Geology.

Economic Geology.—A course of lectures and recitations on this subject is especially arranged for Civil Engineering and scientific students.

Frequent references are made to various works on Natural History and Geology contained in the University Library, and the student in this department is expected to take advantage of the opportunity here offered to acquaint himself

with the literature of the subject he may have under consideration.

The Lecture-room and Laboratory are situated on the third floor of the main University building, north end. The Laboratory is well equipped with new and costly microscopes, both dissecting and compound, and such other appliances as are necessary for carrying on Biological or Geological research.

TABULAR STATEMENT.

Sub-Freshman.—Elementary Zoology, Elementary Botany, Elementary Physiology.

Freshman.—General Zoology, Plant Analysis, Anatomy and Physiology (Advanced).

Sophomore.—Structural and Microscopic Botany, Entomology, Laboratory.

Juniors.—Geology, Laboratory, Economic Geology (Junior Engineering).

Seniors.—Special Biological Work, Economic Geology (Senior Scientific).

ANCIENT LANGUAGES.

C. H. LEVERETT, PROFESSOR.

The subjects taught in this department are the Latin Language and Literature and the History of Rome, the Greek Language and Literature and the History of Greece. Authors are read in the order of their difficulty, and neat written translations are required at stated intervals. The grammar and idioms of these languages are carefully studied and compared with those of English and other languages.

Marked attention is paid to the rendering of English into Latin and Greek. In the lower classes the best manuals for Latin and Greek composition are used; for the higher classes carefully graded exercises are prepared by the professor.

Due prominence is given to the study of the Latin and Greek metres. The grammars are made the basis of this instruction, but fuller explanation is given in lectures.

For admission into the Freshman Class, students should be able to read at sight and parse any passage in two books of Cæsar; must know thoroughly all the declensions and conjugations, regular and irregular, of the Latin Grammar, and the elementary principles of Syntax; and should be able to translate easy sentences from English into Latin.

No Greek is required, at present, for admission.

LATIN.

Freshman Class.—Gildersleeve's Grammar, Jones' Latin Prose Composition, Cæsar (Greenough or Kelsey) 2 Books, or Nepos (C. & S.) 35 pages, Virgil (Greenough) 3 Books of Æneid and selections from Eclogues, Pennell's or Smith's **Smaller History of Rome.**

Sophomore Class.—Gildersleeve's Grammar, Jones' Prose Composition, Cicero's Orations (Harkness) 50 pages, Odes of Horace (MacLeane), Livy (Lincoln) 50 pages.

Junior Class.—Gildersleeve's Grammar, Prose Composition, Livy 60 pages, Satires and Epistles of Horace (1500 lines), Tacitus (100 pages).

Senior Class.—Gildersleeve's Grammar, Original Exercises, Cicero's Moral Works, Juvenal (Leverett or MacLeane), Roman Literature.

Books of Reference.—Harper's Latin-English Lexicon, White's English-Latin Lexicon, Classical Dictionary, Classical Atlas, Zumpt's, Madvig's and Roby's Latin Grammars.

Other authors may occasionally be substituted for those above when a change seems beneficial: (*e. g.*) Sallust, Ovid, Catullus, Tibullus, Propertius, Pliny, Plautus.

GREEK.

Freshman Class.—Goodwin's Grammar, Whiton's Lessons, Xenophon's Anabasis (Goodwin) 6 chapters.

Sophomore Class.—Goodwin's Grammar, Jones' Prose Composition, Xenophon's Anabasis 3 books, Lysias 3 orations, History of Greece.

Junior Class.—Goodwin's Grammar, Jones' Prose Composition, Herodotus (Mather) 40 pages, Homer's Iliad (Pratt and Leaf) 3 books, Demosthenes 40 pages, Plato.

Senior Class.—Goodwin's Grammar, Original Exercises, Thucydides 1 book, Euripides 1 play, Sophocles 2 plays, Greek Literature.

Books of Reference.—Liddell and Scott's Greek-English Lexicon (7th Oxford Edition), Yonge's English-Greek Lexicon, Classical Dictionary, Classical Atlas, Goodwin's Moods and Tenses, Hadley's or Curtius' Grammar.

Other authors may be substituted for the above.

NORMAL DEPARTMENT.

PROFESSOR HOWELL

The design of this department is to train teachers for the schools of the State. Technical instruction is begun in the Sub-Freshman and completed in the Sophomore Class, satisfactory completion of the course entitling the student to a certificate of Licentiate of Instruction.

The course includes all the branches required for State license by the school laws of the State, and former graduates, after successful experience in actual teaching for a reasonable time, have been granted State license by the State Superintendent of Public Instruction without examination. After completing the Normal course students may take up in the Junior Class the work of one of the other courses and compete for the corresponding degree.

Psychology is made the basis of technical instruction, a brief outline of this branch being given in the Sub-Freshman Class, and special attention being paid to the analysis of the intellectual processes. Students are encouraged and trained to study their own mental phenomena, and to note evidences of similar phenomena in the conduct of others, especially of children. The fundamental principles of teaching as deduced from psychical facts are presented, as also general methods of teaching based on these principles. Students are required to give much attention to principles as inculcated, and to methods as illustrated in approved pedagogical books and journals, a good selection of which is free of access in the University Library. At the same time they are taught to avoid a slavish dependence upon the methods of others, and encouraged to devise methods of

their own. Methods of teaching the common branches are illustrated with the classes, the members being selected alternately to conduct recitations, and free criticism and discussion being allowed after each.

The idea is continually made prominent that character-building should be the grand aim of the teacher. Near the end of the course a more extended outline of Psychology is given, covering the more important facts of the science with which a teacher should be familiar.

Further, the aims are:

1. To unify the work of our State educational system by bringing the secondary schools and the University into close sympathy with each other.

2. To teach pupils how to organize, grade and discipline the various kinds of schools.

3. To give them a knowledge of school law, and especially of the duties of teachers as officers of the State.

4. To impart to them a valuable summary of the history of education.

5. To aid them in creating for themselves high educational ideals, based on the principles of Christianity.

Text-books—White's Pedagogy, Painter's History of Education, Baldwin's School Management, Palmer's Science of Education, Sully's Psychology.

PREPARATORY DEPARTMENT.

Students are not admitted into the "A" Preparatory Class until they are thoroughly familiar with the fundamental operations of Arithmetic, including common fractions. In reading they must be able to understand and intelligently render specimens of the grade of the Fifth Reader; must have a knowledge of Elementary English Grammar, Elementary Geography, and the spelling of ordinary words of the grade of the Fifth Reader.

Much importance is attached to Mental Arithmetic as a means for developing the power of analysis, and for strengthening the mind. Both oral and written exercises are required daily.

Daily exercises in Penmanship are required.

In the "A" Class Geography is taught during the first term, and United States History during the second and third terms. Latin is begun by those who propose a Classical course or the complete Normal course.

Classical students are thoroughly drilled in the elements of Latin Grammar, and are carried through a Reader and two books of Caesar, or the equivalent, by the close of the Sub-Freshman year. Students are exercised by frequent translations from the English into Latin.

Algebra is taught during the entire Sub-Freshman year. Students are thoroughly drilled in the elementary principles, and required to master everything to equations of the second degree.

Drawing forms a part of the regular curriculum, and is begun in the "A" class. It has a disciplinary, as well as a practical value, and also tends to refine the taste.

Elementary Science is taught throughout the Sub-Freshman year. The classes have been taught by the Pro-

fessors of Chemistry and Biology, who have sought to give such an outline of scientific facts and principles as would prove valuable both to those students who propose to take a fuller course, and to the larger number who drop out of school before reaching the College Department.

TEXT-BOOKS.

Algebra.—Robinson's University.

Arithmetic.—Barnes' National.

Book-keeping.—Bryant and Stratton.

Botany.—Gray's How Plants Grow.

Chemistry.—Houston.

English.—Crittenden's Composition, Meiklejohn's English Language, Knox-Heath's Lessons in English.

Geography.—Appleton's Physical, Harper's School.

History.—Barnes' United States.

Latin.—Jones' First Lessons, Gildersleeve's Grammar and Reader.

Penmanship.—Harper's Copy Books.

Physiology.—Martin's Human Body (Elementary Course).

Reading.—Barnes and Swinton.

Zoology.—Holder's.

MILITARY DEPARTMENT.

• PROFESSOR FLETCHER, U. S. A.

The military officers of the University consists of the President, Commandant and such assistant professors as may be assigned to duty in this department by the President. The President is head of the department, and issues, from time to time, such general and special orders as he deems necessary to the efficiency of the military exercises and to the enforcement of order in the buildings and on the grounds.

This department is designed to impart to each male student, not physically incapacitated to bear arms, theoretical and practical instruction in the school of the soldier, of the company, and of the batallion, and thereby furnish the State with a body of young men qualified to organize its militia.

The male students are required to drill, because an act of Congress for 1862, which appropriated lands to establish the University, provided that the leading branches taught should be, in addition to the usual course of study prescribed in universities "Military Science and Tactics".

Besides, the military drill is a superior health-giving exercise, and promotes physical development, manly carriage, neatness, precision, order, and a habit of obedience, which is a valuable aid in the enforcement of discipline.

The entire body of male students is divided into companies, which are officered by cadets, selected for proficiency in drill, good deportment and scholarship. The cadet officers are regarded as assistants in the enforcement of discipline, and their orders, while on duty, are considered as duly authorized, and must be obeyed accordingly.

Cadet officers are expected and required to be examples in military deportment and general good conduct.

A neat uniform, with brass buttons and suitable trimmings, is required to be worn by all males.

Parents and guardians will save money by postponing the purchase of suits for their children and wards until they arrive at Fayetteville.

A competitive drill is held yearly and the successful company wins the honor of carrying the colors for the ensuing year.

OFFICERS AND NON-COMMISSIONED OFFICERS OF THE BATTALION.

E. L. FLETCHER (*First Lieut. 13th U. S. Inf.*), *Colonel.*

WALLACE OLIVER, *First Lieutenant and Adjutant.*

FRED CARRUTHERS, *Sergeant-Major.*

"A" COMPANY.

W. R. HERVEY, *Captain.*

S. A. HORTON, *First Lieutenant.*

J. W. EVERETT, *Second Lieutenant.*

S. VAULX, *First Sergeant.*

W. CRAWFORD, *Sergeant.*

W. S. HORTON, *Sergeant.*

A. FERGUSON, *Corporal.*

"B" COMPANY.

R. W. DUNCAN, *Captain.*

A. G. TAFF, *First Lieutenant.*

W. R. GANAWAY, *Second Lieutenant.*

T. DUNCAN, *First Sergeant.*

A. P. JONES, *Sergeant.*

J. E. JARRATT, *Sergeant.*

W. M. FISHBACK, *Corporal.*

"C" COMPANY.

L. F. FISHBACK, *Captain.*
S. LEVERETT, *First Lieutenant.*
C. C. PATTON, *Second Lieutenant.*
R. C. HARRIS, *First Sergeant.*
F. MCKIBBEN, *Sergeant.*
G. SKELTON, *Sergeant.*
S. R. SMITH, *Sergeant.*
S. C. TREADWELL, *Corporal.*

MUSICAL DEPARTMENT.

MRS. N. HOXIE-PATTERSON, INSTRUCTOR.

PIANO-FORTE.

This course will require six years for completion, if the pupil possess marked talent and unceasing energy.

FIRST YEAR.

Studies of the first principles of music, five-finger exercises, technic scales, and such studies as will prepare the pupil for the introduction of light classics.

SECOND YEAR.

Practical exercises and *études* of Duvernoy, Czerny, etc., in connection with the latest studies in technic. Grade 2.

THIRD AND FOURTH YEARS.

Advanced technical studies of Lœshhorn, Plaidly, etc., and studies of Heller, Clementi and Bach preparatory to moderately difficult classical composition.

FIFTH AND SIXTH YEARS.

Advanced studies of Beethoven, Clementi, Bach, etc., and difficult compositions of Schumann, Liszt, Chopin, Haydn, etc.

VOCAL CULTURE.

FIRST YEAR

Will be devoted exclusively to forming register and to producing evenness and natural tones of voice in register. Bassini's Art of Vocalization will be the studies required.

SECOND AND THIRD YEARS.

Pronunciation, timbre, science and art of breathing (diaphragm and clavicular), and art of phrasing; studies in Conconi and Marche, with light selections from the operas.

FOURTH AND FIFTH YEARS.

Messo di Voco, Portamento, and other vocal embellishments; studies of Panolka, Beethoven, etc., with the more difficult selections from the operas and classic compositions of Mendelssohn.

SIXTH YEAR

Will embrace the first course in Opera Dramatic.

VIOLIN.

FIRST YEAR.

Practice of bowing, finger exercises, Manzas' Instructor.

SECOND YEAR.

Etudes of Dancsa and arrangements from the operas.

THIRD YEAR.

Kaiser's Etudes, Sonatas by Haydn, Schubert, etc.

FOURTH YEAR.

Kreutzer's Etudes and compositions by DeBeriot, Kreutzer, etc.

TERMS.

PER SESSION OF TWELVE WEEKS.

Piano-forte.....	\$12 00
Voice Culture.....	12 50
Violin or Guitar.	12 00
Thorough Bass and Harmony.....	5 50
Theory and Composition.....	7 50
Use of Piano one hour every day.	2 35

For one lesson per week the rates are half the above, except for the use of piano.

Tuition must be paid invariably in advance.

All pupils are required to take theory as well as practice.

No deductions will be made on account of absence from recitations except in cases of prolonged sickness; then the loss will be shared equally between student and teacher.

By a resolution of the Board of Trustees, at its recent meeting, the students of the Music Department, who have not matriculated in other departments, will hereafter be required to matriculate without the usual fees, and to be subject to the regulations applicable to other students.

LOCATION.

The Arkansas Industrial University is located within the corporate limits of the town of Fayetteville; Washington county. The location is thought to be unsurpassed by any other locality in the State in salubrity of climate, beauty of surrounding scenery, fertility of soil, variety and perfection of agricultural and horticultural productions, and in the morality and intelligence of its people.

PROPERTY.

The property of the University consists of the proceeds of the munificent grant of land by Congress, the bonds of Washington county and of the town of Fayetteville, the appropriations made by the State, and the University farm lands—amounting in all to \$300,000 in value.

The Main Building is one of the most magnificent structures of the kind in the South. A brief description of it will be found on the fourth page of this catalogue.

ACCESSIBILITY.

Students may reach Fayetteville from both the north and the south by double daily trains on the Texas branch of

the St. Louis & San Francisco Railroad, which now connect on the south with the Little Rock & Ft. Smith Railroad at Van Buren.

ARRIVAL OF STUDENTS.

Students, on arriving at Fayetteville, must report at once to the President of the University. No student will be allowed to recite in any class until properly enrolled, but will be held responsible for his conduct from the time of his arrival in Fayetteville.

WITHDRAWAL OF STUDENTS.

Parents or guardians who wish to withdraw their children or wards from the University should write to the President of the Faculty, stating their wishes. No honorable discharge will be given to a student under age who is unable to produce the written application of his parent or guardian for his withdrawal, or if his number of demerits shall exceed the proportion of two hundred allowed during the session. Nor will an honorable discharge be given to a student under censure of any kind, whether for neglect of duty or other cause, even though he may have the consent of his parent or guardian for his withdrawal from the University.

BOARDING.

Students are required to board at such places as are approved by the Faculty, and are under the supervision of the President of the University. No change of boarding house will be allowed, except at the end of each term, unless under extraordinary circumstances, nor without the permission of the President. In order to lighten the expenses of students of limited means, the State has provided a dormitory and dining-room on the University grounds. Here the students have excellent rooms free of rent, and obtain board at actual cost, which has been from seven to eight dollars per month. Occupants of the building must provide their own furniture, fuel and lights. Before entering the boarding house, they

are required to promise to conform to such regulations as to study, the preservation of order, visiting, leaving their quarters, and the care of their rooms, as may be prescribed by proper authority.

An officer appointed by the Faculty lives in the building and superintends the department.

EXPENSES.

Matriculation, charged all new students.....	\$ 5 00
Tuition per session, charged all except beneficiary students	10 00
Tuition for one or more languages than English.....	10 00
(Ten dollars includes all tuition except music).	
Music Fees (see Music).	
Furniture for Dormitory students, at cost, usually about	15 00
Board in Dormitory at cost, per month, from \$ 7 00 to 8 00	
Board in private families, per month, from 12 00 to 15 00	
Uniform suit, purchased by student, from 13 00 to 17 50	
Washing, per month, about.....	1 00

Students leaving the University frequently sell their furniture at a small reduction.

From the above statement, one may see that the actual charges made by the University are nominal, and board can be obtained at very reasonable rates.

LITERARY SOCIETIES.

In the Collegiate Department there are two literary societies, the "Mathetian" and the "Philomathean". Students who are members of the Sub-Freshman Class are also eligible to membership in these.

Literary societies may be organized in the Preparatory Department under proper restrictions. At present there is but one in operation, the Garland Society.

LIBRARY AND READING ROOM.

A small but well-selected collection of books, numbering about 4,000 volumes, constitute the Library of the Uni-

versity. Of this number a large percentage is made up of valuable and costly technical works for the various departments of the Institution, and the necessary purchase of these has absorbed a large part of the yearly appropriations, and seriously retarded the numerical growth of the Library.

Yet in no sense has the purchase of a full collection of technical works been attempted in any department. The most that it has been possible to do has been to provide for the pressing needs of the hour by the thoughtful and careful expenditure of the small amount of money yearly assigned to each department. One of the most obvious and pressing necessities of the University to-day is a large and liberal appropriation from the Legislature, to provide a Library suitable to the needs of the Institution and the standing of the State. A complete technical library, kept up with the course of investigation and discovery by constant additions, has always been recognized by competent authorities as one of the most indispensable means and accessories of instruction even in the most practical schools. Agriculture and mechanics have their vital literature, their full line of necessary books of reference, just as much as have Chemistry and Engineering, or Physics and Astronomy, or Mathematics and English.

Moreover, History and *Belles-lettres* have their just and beneficent claims upon us. It is neither creditable nor pleasant to read in the report of the Commissioner of Education that Kansas, admitted to Statehood in 1861, contains libraries numbering in the aggregate 173,661 volumes, while Arkansas, admitted in 1836, can number in public libraries throughout all the broad extent of her territory only 48,173 volumes. This is a bad showing for the reading proclivities of our people, and the matter deserves careful consideration.

To remedy the matter, where can a better beginning be made than here at the State University, where the youth, coming up from all parts of the State, may learn, under careful and competent instructors, to value and to use a

well-equipped library, and may carry home with them the desire to diffuse and strengthen in the various towns and villages the taste for more and better literature? Thus all through the State small libraries will spring up here and there, and taking root, will grow and produce for the State a hundred-fold harvest of thoughtful public spirit and intelligent patriotism.

Private philanthropy might be of much service in this matter, and probably would be so, if our needs were properly known. Any donation from private persons will be reported to the Board of Trustees and receive proper acknowledgment.

Besides the nuclei of technical libraries for the various departments, as already mentioned, we have a small but carefully selected collection of books on general literature. Additions to the library are made annually from a small fund set apart by the Board of Trustees.

Nearly all the newspapers of the State of Arkansas, and several from other States, have been generously furnished to the Library, either by the publishers or other friends of the University. The best magazines of America, and some from England, France and Germany, are also purchased. All these are kept on file in the Library, and students have access to them, as well as the books, at certain hours each day. No library fee is charged, but a deposit of \$2 is required to insure proper care of the books taken from the Library.

The thanks of all friends of the University are due to the following persons for contributions of books:

To Mr. Nathaniel Ruggles, Fayetteville, Ark., for

- Malhan's Gazetteer (2 vols.), published 1797.
- Morris' American Gazetteer (1 vol.), published 1797.
- Sandwich Island Bible, published 1843.
- American Encyclopedia (7 vols.), published 1805.
- Ecclesiastical History, MacLaine (5 vols.), published 1811.
- Life of Catharine II (2 vols.), published 1802.
- Universal Receipt Book, published 1825.
- Humboldt's New Spain (2 vols.), published 1811.
- Christian Observer, Vol. 14, published 1815.

Duffie's Nature Displayed (2 vols.), published 1811.
 History of Miranda (1 vol.), published 1810.
 Fiji Island Bible (1 vol.), published 1850.
 Pinkerton's Voyages (6 vols.), published 1810.
 Principles of Natural and Revealed Religion, published 1816.
 Russell's Ancient Europe (2 vols.), published 1801.
 Marshall's Life of Washington (6 vols.), published 1804.
 Novelist's Magazine (9 vols.), published 1781 to 1782.
 Barret's Dictionary of Spanish and English, published 1800.
 Dictionary Royal of French and English, published 1729.
 Monthly Anthology and Boston Review, Vol. 3, published 1806.
 Athenæum, Vols. I and III, published 1817-18.
 North American Review, Vols. 4, 18, 20, 21, 31, 32, 33 (20 vols.), published 1821-1831.

To Mrs. B. F. Perry, of Sans Souci, S. C., for

Biographical Sketches of Eminent American Statesmen, by Gov. B. F. Perry, of South Carolina; Reminiscences of Public Men, by Gov. B. F. Perry.

To Rev. Oliver Crane, for

Translation of Virgil's *Æneid*, by Rev. O. Crane.

To Henry Shaw, St. Louis, Mo., for

Botanical Works of the late George Engelman, edited by Trelease and Gray.

To Prof. J. M. Whitham, Fayetteville, Ark., for

Steam Engine Design, by J. M. Whitham, A. I. U.

APPARATUS.

The University is supplied with no inconsiderable amount of apparatus for illustrating the different sciences, and for the prosecution of original work. Most of the departments are well equipped for practical laboratory and field work.

MUSEUM.

The cabinet of minerals consists chiefly of a collection of State minerals, contributed by various parties of the State, and by the professors; but it has been recently enlarged by purchase, and embraces also specimens of value from other States.

There has been constructed an herbarium case large enough to hold the indigenous plants of North America and such exotics as are of economic value. It will be the work of years to complete a collection of the plants of North America, but the work is progressing. A valuable addition

has been made by the purchase of Prof. Harvey's collection of the plants of Arkansas, embracing more than 2,500 specimens.

There are about 500 species of animals, illustrating the various parts of zoology.

Collections in all the departments are slowly accumulating.

Contributions of minerals, fossils, Indian relics and rare curiosities are solicited.

APPOINTMENT OF BENEFICIARIES.

All appointments should be complete, if possible, before the opening of the Autumn term. The County Judges, who make the appointments, should prepare duplicate notifications of appointments, one of which should be forwarded to the President of the University, and one to the Secretary of the Board of Trustees. In case the appointee fails to appear at the University within twenty days after an appointment (except in case of sickness), he or she will be regarded as having declined the appointment, in which case it will be the duty of the President of the Faculty to notify the person making the appointment of such failure, and he, in turn, should make another appointment as soon thereafter as possible. The President of the Faculty shall continue to notify appointing officers until their respective number of appointees make their appearance at the University.

All beneficiary students should be present at the opening of the Autumn term; and unnecessary delay, either of old students returning, or new ones reporting, will lead to the forfeiture of their appointments.

QUALIFICATIONS.

The attention of County Judges is called to the fact that *no Beneficiary Students will be admitted unless they have the following qualifications:*

Students are not admitted until they have become familiar with the fundamental principles of arithmetic,

including common fractions. In reading, they must be able to understand and intelligently render specimens of the grade of the Fifth Reader, must have a knowledge of elementary English grammar, elementary geography, and the spelling of ordinary words of the grade of the Fifth Reader. These qualifications are the test of admission at the beginning of the session; those applying later will be admitted only on the grade of the class.

APPOINTMENTS.

As much trouble and annoyance is caused by students who have been appointed beneficiaries coming without any evidence of appointment, the following are adopted as the proper forms of notice to be given by the Judge of the County Court to the President of the University and the Secretary of the Board of Trustees, upon the appointment of beneficiary students by the County Court, or the Judge thereof, in accordance with the sixth section of an act approved March 6, 1875.

[Form 1—Appointment.]

No..... [To be given to the Student.]

To whom it may concern:

I hereby appoint.....of.....

County, State of Arkansas, as a beneficiary to the Arkansas Industrial University.

Given under my hand this.....day of.....189...

Send a notice like the following to the President of the University, and one to the Secretary of the Board of Trustees, at Fayetteville:

[Form 2—Notice to President of the University.]

.....Arkansas. }

To the.....University:

I hereby notify you that I have this day appointed.....

.....of.....County, State of Arkansas, a beneficiary to the Arkansas Industrial University.

Given under my hand this.....day of.....189...

BENEFICIARIES.

The Board of Trustees have provided that the number of beneficiaries shall be limited to one thousand, to be distributed to the counties of the State in proportion to the population of 1880, and that in every case where a county fails to supply its quota of beneficiaries, the Governor shall be authorized to appoint such beneficiaries to the full number authorized by law; provided that such appointment may be vacated on an application from a county so failing to fill its quota, but may be resupplied from some other county whose quota has not been filled. [See table.]

COUNTIES.	Beneficiaries.	COUNTIES.	Beneficiaries.
Arkansas.....	10	Lee.....	16
Ashley.....	13	Lincoln.....	12
Baxter.....	7	Little River.....	6
Benton.....	24	Logan.....	19
Benton.....	15	Lonoke.....	15
Bradley.....	8	Madison.....	15
Calhoun.....	7	Marion.....	10
Carroll.....	16	Miller.....	12
Cass.....	12	Mississippi.....	9
Chicot.....	13	Monroe.....	12
Clay.....	15	Montgomery.....	7
Cocke.....	8	Nevada.....	17
Columbia.....	10	Newton.....	6
Crawford.....	19	Ouachita.....	15
Crittenden.....	16	Perry.....	6
Crittenden.....	8	Phillips.....	28
Crittenden.....	11	Pike.....	3
Crittenden.....	6	Poinsett.....	7
Crittenden.....	9	Polk.....	3
Crittenden.....	11	Pope.....	19
Crittenden.....	15	Prairie.....	10
Crittenden.....	17	Pulaski.....	45
Crittenden.....	18	Randolph.....	12
Crittenden.....	8	Saline.....	11
Crittenden.....	11	Scott.....	19
Crittenden.....	8	Searcy.....	7
Crittenden.....	9	Sebastian.....	28
Crittenden.....	24	Savoy.....	3
Crittenden.....	10	Sharp.....	12
Crittenden.....	12	Stone.....	8
Crittenden.....	21	St. Francis.....	10
Crittenden.....	14	Union.....	16
Crittenden.....	29	Van Buren.....	11
Crittenden.....	15	Washington.....	30
Crittenden.....	6	White.....	21
Crittenden.....	10	Woodruff.....	12
Crittenden.....	10	Yell.....	18

There is also one "Honorary Scholarship" to each county, to be selected for superior merit and proficiency from the Public Schools of each county, according to section 2 of act July 23, 1868.

SALE OF ARDENT SPIRITS NEAR THE ARKANSAS INDUSTRIAL
UNIVERSITY.

By an act of the General Assembly of the State of Arkansas, approved March 6, 1875, it is unlawful for any person to sell or give any vinous or ardent spirits within three miles of the Arkansas Industrial University, unless it be prescribed by a regular practicing physician for medicinal purposes.

Applications for catalogue or blanks for Beneficiary appointments should be addressed to Col. J. L. Cravens, Secretary, Fayetteville, Ark.

COMMENCEMENT.

1889.

1. *Sunday, August 25, 11 a. m.,*
BACCALAUREATE SERMON,
DR. J. M. HUBBERT, Nashville, Tenn.
2. *Monday, August 26, 3:30 p. m.,*
REVIEW OF BATTALLION.
3. *Monday, August 26, 8 p. m.,*
MATHEIAN PROGRAMME.
4. *Tuesday, August 27, 8 p. m.,*
PHILOMATHEAN PROGRAMME.
5. *Wednesday, August 28, 8 p. m.,*
GRAND CONCERT.
6. *Thursday, August 29, 10 a. m.,*
ADDRESS TO LITERARY SOCIETIES,
H. G. ALLIS, Little Rock, Ark.
7. *Thursday, August 29, 8 p. m.,*
SENIOR CLASS-DAY EXERCISES.
8. *Friday, August 30, 10 a. m.,*
COMMENCEMENT ADDRESS,
HON. W. M. FISHBACK, Fort Smith, Ark.
CONFERRING OF DEGREES,
GOVERNOR J. P. EAGLE.
9. *Friday, August 30, 3 p. m.,*
MEETING OF ALUMNI ASSOCIATION.

CLASS OF 1889.

MOLLIE TAFF, VALEDICTORIAN.

DON C. B. AIKEN, SALUTATORIAN.

DEGREES CONFERRED.

The following students received the degrees affixed to their names:

AIKEN, DON C. B., C. E.	SLAGLE, IDA, B. A.
FISHBACK, LOUIE F., B. S.	TAFF, MOLLIE, B. A.
HARRISON GRACE, B. S.	CONDRAV, WM. F., L. I.
MCNEELY, JOHN C., C. E.	CORE, ELIAS, L. I.
OBENSHAIN, ORA, B. S.	REYNOLDS, MATTIE, L. I.
WILLIS R. H., B. A.	

ALUMNI ANNOUNCEMENT.

At the meetings of the Alumni Association, held August 29 and 30, 1889, the following officers were elected :

G. W. DROKE, *President.*

J. N. TILLMAN, *Vice President.*

IDA PACE, *Secretary.*

COLLIN MASSIE, *Treasurer.*

- A motion was carried that a committee be appointed to make out a programme for next Commencement, and this committee was instructed to select one of the Alumni to give the Annual Address.

Another motion was carried that a committee be appointed to get up a banquet for the same occasion.

An effort will be made to have a full attendance at the commencement of 1890. A pleasant time is promised to all that will come.

It will be an important meeting, since it is to be held just a short time before the next General Assembly of Arkansas convenes.

ALUMNI OF THE ARKANSAS INDUSTRIAL UNIVERSITY.

NAME.	RESIDENCE WHEN A STUDENT.	PRESENT RESIDENCE AND REMARKS.
CLASS OF 1875.		
Botefuhr, Laura D.....	Fayetteville, Ark.....	Mrs. G. W. Schulte, Fort Smith, Ark.
Carson, Ann E.....	Jonesboro, Ark.....	Mrs. Jno. Knight, Jonesboro, Ark.
Carson, Augusta O.....	Jonesboro, Ark.....	Mrs. T. W. Oline, Downey, Cal.
Davis, Lizzie P.....	Bentonville, Ark.....	Mrs. R. C. Brown, Florence, Arizona.
McCart, Eva.....	Fayetteville, Ark.....	Mrs. D. M. Main, Cheney, Kansas.
McKinney, Chas. F.....	Ozark, Ark.....	Traveling Salesman, Ozark, Ark.
Moore, Lucy J.....	Fayetteville, Ark.....	Mrs. Ross, Cincinnati, Ark.
Putnam, Anna.....	Fayetteville, Ark.....	Teacher in Public School, Fayetteville, Ark.
CLASS OF 1876.		
Barnett, Nettle.....	Fayetteville, Ark.....	Mrs. C. Boles, Fayetteville, Ark.
Gorton, Bell L.....	Aurora, Ill.....	Author, Chicago, Ill.
Gregg, Alfred W.....	Fayetteville, Ark.....	Deceased.
Harris, Agnes.....	Fayetteville, Ark.....	Mrs. Johnson, Kansas City, Mo.
Harris, Sara E.....	Fayetteville, Ark.....	Professor in A. I. U. for several years—Mrs. C. P. Conrad, Kansas City, Mo.
Johnson, Albert P.....	Wesley, Ark.....	Lawyer, Winfield, Kansas.
Neal, W. H.....	Van Buren, Ark.....	Lawyer, Van Buren, Ark.
Taylor, E. L.....	Fayetteville, Ark.....	County and Probate Clerk, Bentonville, Ark.
Waggener, W. J.....	Farmington, Ark.....	Professor of Philosophy, University of Colorado, Boulder, Col.

ALUMNI OF THE ARKANSAS INDUSTRIAL UNIVERSITY—*Continued.*

NAME.	RESIDENCE WHEN A STUDENT.	PRESENT RESIDENCE AND REMARKS.
CLASS OF 1877.		
Borden, Alice.....	Fayetteville, Ark.....	.....
Carden, E. B.....	Bloomer, Ark.....	Deceased.
Hawkins, J. T.....	Mount Holly, Ark.....	Physician, Mount Holly, Ark.
Jennings, Edgar P.....	Fayetteville, Ark.....	Fayetteville, Ark.
Massie, Collin.....	Fayetteville, Ark.....	Teacher in A. I. U., Fayetteville, Ark.
Mellette, W. M.....	Fort Smith, Ark.....	Lawyer, Fort Smith, Ark.
Simms, W. D.....	Bentonville, Ark.....	Deceased.
Waggener, Aonie.....	Fayetteville, Ark.....	Teacher in A. I. U., Fayetteville, Ark.
Walker, J. V.....	Fayetteville, Ark.....	Lawyer, Fayetteville, Ark.
Watson, Charles A.....	Fayetteville, Ark.....	.....
CLASS OF 1878.		
Blakely, Nora.....	Fayetteville, Ark.....	Mrs. H. M. Hudgins, Hot Springs, Ark.
Gregg, Andrew S.....	Fayetteville, Ark.....	Physician, Fayetteville, Ark.
Pettigrew, Thos. A.....	Charleston, Ark.....	Lawyer, Charleston, Ark.
Reed, Maggie.....	Fayetteville, Ark.....	Mrs. P. A. Crawford, Fayetteville, Ark.
Sutton, Wm. S.....	Fayetteville, Ark.....	Superintendent Public Schools, Houston, Texas.

ALUMNI OF THE ARKANSAS INDUSTRIAL UNIVERSITY—*Continued.*

NAME.	RESIDENCE WHEN A STUDENT.	PRESENT RESIDENCE AND REMARKS.
CLASS OF 1879.		
Butler, H. M.....	Varner Station, Ark.....	Teacher, Waco, Texas.
Floyd, J. C.....	Bentonville, Ark.....	Lawyer, Yellville, Ark.
Harrod, J. H.....	Lonoke, Ark.....	Lawyer, Conway, Ark.
Marrs, S. E.....	Viney Grove, Ark.....	Editor Democrat, Fayetteville, Ark.
Marshall, J. C.....	Avoca, Ark.....	Lawyer, Little Rock, Ark.
Patton, Alice.....	Viney Grove, Ark.....	Teacher in Public School, Fayetteville, Ark.
Teague, C. V.....	Toledo, Ark.....	County and Probate Judge, Hot Springs, Ark.
Wood, C. D.....	Hamburg, Ark.....	Judge Circuit Court, Monticello, Ark.
CLASS OF 1880.		
Droke, G. W.....	Bentonville, Ark.....	Teacher in A. I. U., Fayetteville, Ark.
Johnson, T. M.....	Wesley, Ark.....	
King, Artelle Alice.....	Fort Smith, Ark.....	Mrs. J. C. Belt, Brooken, I. T.
Kitchens, T. B.....	Jonesboro, Ark.....	County and Circuit Clerk, Paragould, Ark.
Langford, W. H.....	El Dorado, Ark.....	Merchant, Pine Bluff, Ark.
Patton, Mattie J.....	Viney Grove, Ark.....	Teacher, Viney Grove, Ark.
Ross, T. C.....	Fort Smith, Ark.....	Lawyer, Fort Worth, Texas.
Russell, Lawrence.....	Russellville, Ark.....	Lawyer, Russellville, Ark.
Tillman, J. N.....	Fayetteville, Ark.....	Lawyer, Fayetteville, Ark.
Williams, Naomi J.....	Fayetteville, Ark.....	Teacher in A. I. U., Fayetteville, Ark.

ALUMNI OF THE ARKANSAS INDUSTRIAL UNIVERSITY—Continued.

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SEVENTEENTH CATALOGUE

NAME.	RESIDENCE WHEN A STUDENT.	PRESENT RESIDENCE AND REMARKS.
CLASS OF 1881.		
Carnall, Ella.....	Fort Smith, Ark.....	Teacher in A. I. U. for several years—Fort Smith, Ark.
Ellis, F. W.....	Fayetteville, Ark.....	United States Signal Service, Washington, D. C.
Moore, J. J.....	Vineyard, Ark.....	Lawyer, Helena, Ark.
Reed, Lina.....	Fayetteville, Ark.....	Teacher, Los Angeles, Cal.
Reiff, O. S.....	Magazine, Ark.....	Lawyer, Little Rock, Ark.
Watson, J. J.....	Fayetteville, Ark.....	Teacher in Australia.
CLASS OF 1882.		
Booth, W. P.....	Batesville, Ark.....	Farmer, Reyno, Ark.
Brown, W. D.....	Newtonia, Mo.....	Physician, Newtonia, Mo.
Carrigan, A. H.....	Washington, Ark.....	Lawyer, Throckmorton, Texas.
Chausler, C. K.....	Washburne, Mo.....	Lawyer, Grant's Pass, Oregon.
Cherry, W. R.....	Patterson's Bluff, Ark.....	County Clerk, Paris, Ark.
Gregg, L. W.....	Fayetteville, Ark.....	Lawyer, Fayetteville, Ark.
Hou, Daniel.....	Waldron, Ark.....	County Judge, Waldron, Ark.
Jones, Gustave.....	Jacksonport, Ark.....	Lawyer, Newport, Ark.
Lanier, J. A. M.....	Mountain Home, Ark.....	Principal Mountain Home Academy, Mountain Home, Ark.
McDonough, J. B.....	Bloomer, Ark.....	Prosecuting Attorney Twelfth Circuit, Fort Smith, Ark.
McFarlane, W. R.....	Enterprise, Ark.....	Lawyer, Greenwood, Ark.
Oats, T. F.....	Russellville, Ark.....	Physician, Mexia, Texas.
Pickel, J. W.....	Mulberry, Ark.....	Physician, Embree, Texas.
Rogers, P. A.....	Rocky Mount, La.....	
Shell, G. C.....	Augusta, Ark.....	Lawyer, Lake Village, Ark.

ALUMNI OF THE ARKANSAS INDUSTRIAL UNIVERSITY—*Continued.*

NAME.	RESIDENCE WHEN A STUDENT.	PRESENT RESIDENCE AND REMARKS.
CLASS OF 1883.		
Bates, C. O.....	Cincinnati, Ark.....	Professor, Coe College, Cedar Rapids, Iowa.
Cravens, Jessie.....	Fayetteville, Ark.....	Teacher in Public School, Fayetteville, Ark.
England, W. W.....	Evansville, Ark.....	.....
Groaves, C. D.....	Hot Springs, Ark.....	Lawyer, Hot Springs, Ark.
Mayes, J. F.....	Fayetteville, Ark.....	Merchant, Fayetteville, Ark.
Stroup, Henry.....	Webb City, Ark.....	Editor, Roseville, Ark.
Taliaferro, Lou.....	Bentonville, Ark.....	Stenographer, Seattle, Wash.
CLASS OF 1884.		
Anderson, L. S.....	Herndon, Ark.....	Clerk in Land Office, Washington, D. C.
Duncan, W. H.....	Conway, Ark.....	Lawyer, Conway, Ark.
Edmiston, W. L.....	Springfield, Mo.....	Teacher.
Gates, D. A.....	Tillar Station, Ark.....	Lawyer and Editor, Arkansas City, Ark.
Goodwin, W. P.....	El Dorado, Ark.....	Editor, El Dorado, Ark.
Hillis, E. W.....	Jonesboro, Ark.....	Lawyer, Jonesboro, Ark.
Hudson, J. H.....	Dardanelle, Ark.....	Teacher and Farmer, Dardanelle, Ark.
Lake, Ella.....	Viney Grove, Ark.....	Teacher of Music, Tahlequah, Indian Territory.
Reed, G. W. M., Jr.....	Fayetteville, Ark.....	Lawyer, Los Angeles, Cal.
Taff, J. L.....	Waldron, Ark.....	Principal Public School, Austin, Texas.

ALUMNI OF THE ARKANSAS INDUSTRIAL UNIVERSITY—*Continued.*

NAME.	RESIDENCE WHEN A STUDENT.	PRESSENT RESIDENCE AND REMARKS.
CLASS OF 1885.		
Hart, J. C.....	Dardanelle, Ark.....	Lawyer, Dardanelle, Ark.
Howell, J. W.....	Clarksville, Ark.....	Druggist, Little Rock, Ark.
Kinsworthy, E. B.....	Black Colony, Ark.....	Lawyer, Arkadelphia, Ark.
Notrebe, E. P.....	Sarassa, Ark.....	Physician, Boonville, Miss.
Woodall, W. H.....	El Paso, Ark.....	President Judson University, Judsonia, Ark.
Woolverton, C. D.....	Center Ridge, Ark.....	Principal Public School, Sheridan, Ark.
CLASS OF 1886.		
Bates, J. H.....	Cincinnati, Ark.....	Lawyer, Corsicana, Texas.
Leverett, Mary,	Fayetteville, Ark.....	Elocution Teacher, Fayetteville, Ark.
Middleton, Mal.....	Fayetteville, Ark.....	Mrs. Robert Chasteen, Russellville, Ark.
Mulholland, Sara.....	Fayetteville, Ark.....	Mrs. J. F. Mayes, Fayetteville, Ark.
Tillar, B. J.....	Tillar Station, Ark.....	Lawyer, Little Rock, Ark.

ALUMNI OF THE ARKANSAS INDUSTRIAL UNIVERSITY—Continued.

NAME.	RESIDENCE WHEN A STUDENT.	PRESENT RESIDENCE AND REMARKS.
CLASS OF 1888.		
Bowles, Preston.....	Hancock, Md.....	Resident Engineer N. O., N. & Ft. S. R. R., Natchez, Miss.
Crozler, Wm. N.....	Fayetteville, Ark.....	Theological Student, Chicago, Ill.
Danaher, Mike.....	Little Rock, Ark.....	Law Student, Little Rock, Ark.
Dickson, W. E.....	Magnolia, Ark.....	Teacher, Waldo, Ark.
Drake, N. F.....	Cincinnati, Ark.....	State Geological Survey, Austin, Texas.
Flynn, W. M.....	Fayetteville, Ark.....	Teacher, Oxford Bend, Ark.
Hobbs, Jno. H.....	Bentonville, Ark.....	Law Student, Washington and Lee University, Lexington, Va.
Pace, Ida.....	Harrison, Ark.....	Secretary for President of A. I. U., Fayetteville, Ark.
Polson, Alice.....	Fayetteville, Ark.....	Fayetteville, Ark.
Powell, W. W.....	Mellbourne, Ark.....	Law Student, Greenwood, Ark.
Schoff, Geo. C.....	Annapolis, Md.....	Assistant Engineer, Johnson Co., Johnstown, Pa.
Treadwell, Lee.....	Toledo, Ark.....	Assistant Engineer, Waddell & Jenkins, Kansas City, Mo.
Warren, Geo. A.....	Hazel Grove, Ark.....	Teacher, Walnut Ridge, Ark.
CLASS OF 1889.		
Aiken, Don C. B.....	Fayetteville, Ark.....	Engineering Department, Johnson Co., Johnstown, Pa.
Fishback, L. F.....	Fort Smith, Ark.....	Loan Agent, Fort Smith, Ark.
Harrison, Grace.....	Washington, D. C.....	Teacher in Public School, Fort Smith, Ark.
McNeely, Jno. C.....	Rackensack, Ark.....	Assistant Engineer N. O., N. & Ft. S. R. R., Natchez, Miss.
Obenshain, Ora.....	Eureka Springs, Ark.....	Eureka Springs, Ark.
Slagle, Ida.....	Hico, Ark.....	Teacher, Hico, Ark.
Tadl, Mary.....	Fayetteville, Ark.....	Post Graduate Student, University of Texas, Austin, Texas.

CALENDAR 1889-90.

The First Term begins Monday, September 2, 1889.

The First Term ends Thursday, December 5, 1889.

The Second Term begins Monday, March 3, 1890.

The Second Term ends Monday, July 21, 1890.

The Third Term begins Monday, July 21, 1890.

The Third Term ends Thursday, December 4, 1890.

The Commencement Thursday, December 4, 1890.

From the above it may be seen that the vacation will be in the winter. This arrangement affords students from malarial districts an excellent opportunity to spend the Summer at school in the mountains, and enjoy the Winter vacation at home without endangering their health.

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MEDICAL DEPARTMENT.

The Trustees of the Arkansas Industrial University, in the Spring of 1879, deemed it expedient to establish a *Medical Department*, to be located at Little Rock, the capital of the State.. The organization was accordingly at once perfected, a full corps of professors secured, and the First Annual Announcement of a course of Medical Lectures, to commence October 7, 1879, was issued to the public.

Since this date, an annual course of Medical Lectures, beginning early in October, and continuing five months, has been given at the Medical College building, situated on Second, between Main and Louisiana streets, Little Rock.

The medical gentlemen comprising its Faculty are all men of acknowledged ability and standing in their profession, and have been untiring in their efforts to advance the interests of this department.

The growth of this branch has been gradual and natural, the session of 1879 and 1880 having twenty-two matriculates, and one graduate who had previously attended a course of lectures at another institution, while the Tenth Annual Session (1888 and 1889) had eighty-three matriculates and seventeen graduates.

The College building is a very imposing three-story structure, composed of stone and brick, and very conveniently located. It contains two general lecture halls, and a very large, well-ventilated dissecting-room, well provided with all the improved conveniencies for obtaining a thorough and complete practical knowledge of the anatomy of the human body.

The College is also well provided with the necessary charts, models, apparatus, etc., for illustrating each particu-

lar subject practically to the eye as well as to the ear of the student. The supply of dissecting material is ample and at a mere nominal cost—the State having made liberal provision in this particular.

The *Clinical* instruction in this institution is very extensive, embracing almost every disease known to prevail, and every class of accident liable to occur. These are always practical, and afford superior advantages to students and practitioners to obtain an ocular demonstration of diseases, accidents, and their treatment.

The *Twelfth Annual Session* will commence on Wednesday, October 1, 1890, and continue five months.

For special catalogue or other information apply to

R. G. JENNINGS, M. D.,

Secretary of Faculty, Little Rock, Ark.



BRANCH NORMAL COLLEGE, PINE BLUFF, ARK.

THE BRANCH NORMAL COLLEGE.

NUMBER STUDENTS 175.

The Branch Normal College is a department of the Arkansas Industrial University, established pursuant to an Act of the General Assembly of the State of Arkansas, approved April 25, 1873, and has been in operation since September 27, 1875. Its primary object is the training of teachers for efficient service in the colored public schools of the State—the law referred to having been enacted with special reference to the “convenience of the poorer classes.” For the purpose of carrying out the intent of the law, by enabling those who wish to avail themselves of its advantages, there is no charge for tuition for appointees; the only requirements for admission being suitable age and qualifications, an appointment from one of the County Judges, and the payment of the entrance fee.

LOCATION.

The school property consists of a beautiful tract of twenty acres of ground, in the suburbs of Pine Bluff, Jefferson county, Arkansas, and a few rods from the junction of the Little Rock, Mississippi River & Texas and “Paramore” Railroads. The school building, completed in 1881, and occupied January 30, 1882, is one of the handsomest educational edifices in the State, as well as one of the best, being warm and comfortable, well lighted and ventilated. It contains one large assembly room, four recitation rooms, and cloak rooms for males and females. The building is of brick, with slate roof and trimmings of Alabama granite, and cost, with improvements and furniture, \$12,000. The furniture and other equipments are of the best modern style.

The Normal Course of Study is not what goes by that name in many of our institutions; that is, a mere preparation for teaching the common school branches, but differs from the usual college curriculum merely in the omission of one or two branches of higher mathematics, and having less in Greek.

The first two years of this course are intended to rank as the Freshman and Sophomore years of the usual college curriculum, and the last two years as the equivalents of the Junior and Senior years.

Seven classes have graduated in the institution, and, as will be seen in the list of the Alumni, are now occupying prominent positions in life.

During the present year the entire building has been whitened, painted and repaired; new furniture and some new apparatus purchased.

The Reading Room has been fitted up in elegant style, and an excellent beginning made toward securing a good library by the collection of about one thousand volumes. It has been supplied with quite a number of valuable newspapers and periodicals, many of which were furnished by their publishers. Among these were the *Journal of Education*, St. Louis; *Teacher*, Philadelphia; *Popular Educator*, Boston; *School Visitor*, Gettysburg, O.; *Gazette*, Little Rock; *Gazette*, Cleveland, O.; *Epoch*, Helena; *Globe-Democrat*, St. Louis; *Republic*, St. Louis; *Inter-Ocean*, Chicago. Among the books of reference are complete sets of *Appleton's Encyclopædia*, *Chamber's Encyclopædia*, and *Encyclopædia Britannica*.

The cabinet of minerals of the Principal and a textbook library belonging to the same are also accessible to the students.

An elegant and commodious Dormitory, which was completed during the past year, will be available for use early in the present year, and will afford accommodations for a large number of students.

In addition to the regular class exercises laid down in the curriculum of study, there are regular lessons in vocal music, which are open to all the students. There are also facilities given for instruction upon the piano, organ, guitar and other instruments.

The meetings of the Normal Choir and Normal Orchestra afford excellent opportunities for practice in both vocal and instrumental music.

The length of the vacation allows the advanced students an opportunity to engage in teaching, and a large proportion of their number have done so during the past five years. In nearly all cases they have given good satisfaction, and conduct their schools with a fair degree of success. The Normal students have also assisted in the work of the Institution itself as a part of their training.

As a part of their training, the advanced students of the Institution assist in the work of teaching.

The appropriations granted by the last General Assembly will enable the trustees to effect a number of improvements, the most important of which will be the furnishing of the Dormitory, purchase of the apparatus and library, and improvement of the grounds. These will probably be done early in the present year.

It will be a great advantage to the Institution if the various County Judges will take a special interest in seeing that their counties are represented. The proper blanks for making appointments will be furnished, together with all necessary information, on application to the Principal.

J. C. CORBIN, A. M.,

Pine Bluff, Ark.

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